

Research Article

Species discovery in Southern African bee flies (Diptera, Bombyliidae): A new species in the revised genus *Enica* Macquart, 1834

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Abstract

The Bombyliidae genera *Enica* Macquart, 1834 and *Nomalonia* Rondani, 1863, restricted to South Africa, are synonymized. Currently, one species of *Enica* is known from South Africa, *Enica longirostris* (Wiedemann, 1819), and six *Nomalonia* species are newly combined with *Enica*: *Enica clavicornis* (Hesse, 1956), **comb. nov.**; *Enica eremophila*, (Hesse, 1975), **comb. nov.**; *Enica henicoides* (Hesse, 1956), **comb. nov.**; *Enica imitata* (Hesse, 1956), **comb. nov.**; *Enica sporanthera* (Hesse, 1956), **comb. nov.**; and *Enica syrticola* (Hesse, 1956), **comb. nov.** A new species, *Enica adelphe* **sp. nov.** from the Richtersveld in the Northern Cape of South Africa, is described. All *Enica* species are redescribed and a dichotomous key with photographic references is provided for ease of identification. Specimen occurrence data and photographs are provided for each species. Each species of *Enica* occurs in at least one of three biodiversity hotspots in South Africa, i.e., Succulent Karoo, Cape Floristic Region, and Maputaland-Pondoland-Albany, with *E. longirostris* occurring in all three.

Key words: Afrotropical, biodiversity, *Nomalonia*, Richtersveld, species discovery, taxonomy



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Introduction

Bee flies (Diptera, Bombyliidae) are a global family of true flies that are particularly diverse in arid and semi-arid regions, such as Southern Africa (Hull 1973; Greathead and Evenhuis 2001). Bee flies are ecologically significant pollinators in South Africa and in some cases have been shown to be the keystone pollinators in the Cape Floristic Province (de Jager and Ellis 2017). As larvae, bee flies are parasitoids and attack a wide variety of hosts such as bees, grasshoppers and even the Tsetse fly (Yeates and Greathead 1997; Carpels and Greathead 1989). Despite their importance as pollinators and their immense diversity, many of the genera require revision. The genera *Enica* and *Nomalonia* were last reviewed by Hesse (1956), who suggested but did not establish a synonymy of the genera. These genera can be found in South Africa mostly in the Western Cape and Northern Cape provinces, with some species found on

the western edge of the Eastern Cape (Fig. 1). These genera can typically be found in arid habitats, perched along trails among dry leaf litter (Fig. 2).

A taxonomic history of the two genera can be summarized as follows:

Wiedemann (1819) described *Anthrax longirostris* from the Cape of Good Hope in South Africa. Macquart (1834) erected the monotypic genus *Enica* with the type species *Anthrax longirostris* Wiedemann. Wiedemann (1828) re-described *Anthrax longirostris* (page 281) and also newly described *Cyllenina afra* Wiedemann, 1828 (both on page 358). Macquart (1855) described *Cyllenina pluricellata*. Loew (1860) found *Cyllenina afra* to differ and so created a new genus for it, *Lagochilus*. Rondani (1863) found *Cyllenina pluricellata* to differ and so placed it in a new genus *Alonipola*. Later, Bezzi (1921) considered both *Cyllenina afra* and *Cyllenina pluricellata* as junior synonyms of *Enica longirostris* (Hesse 1956).

Rondani (1863) erected the genus *Nomalonia* to include the single species *Cyllenina afra* Wiedemann, 1828. This species was already previously included in the monotypic genus *Lagochilus* by Loew (1860) which is a synonym of *Enica longirostris* (see above). However, this type specimen was misidentified. Hesse (1975) proposed the new specific name as *Nomalonia eremophila* and designated it as being the type species of *Nomalonia*.

Hesse (1956) reviewed the genus *Nomalonia*, providing a key and describing five new species: *N. clavicornis*, *N. henicoides*, *N. imitata*, *N. sporanthera*, *N. syrticola*. He mentioned that the genus is morphologically very similar to *Enica* and may need to be synonymized.

Evenhuis and Lamas (2017) included both genera in a key to the Afrotropical bee-fly genera and repeated Hesse's (1956) comment on the similarity between *Enica* and *Nomalonia*. They place the genus in Cythereinae and tribe Enicini in which these genera are the only taxa.

Some 351 specimens (Table 1) had accumulated in the Iziko South African Museum (SAMC), KwaZulu-Natal Museum (NMSA), The Natural History Museum, London, UK (NHMUK) and Smithsonian National Museum of Natural History (USNM) over the past decades and are here used to revise these two genera of South African bee flies.

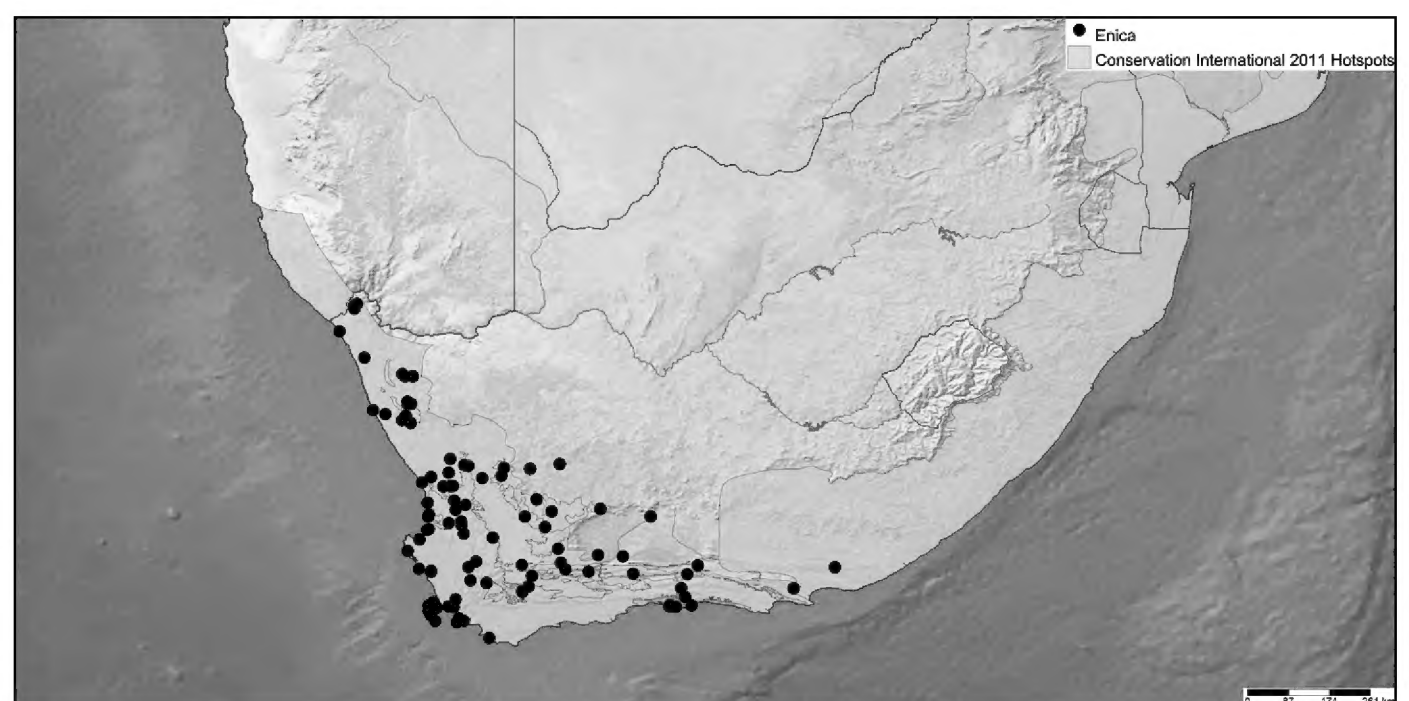


Figure 1. Map of southern Africa with elevational relief and biodiversity hotspots (sensu Conservation International in grey) and distribution records of examined specimens of all species within the genus *Enica* (in black).

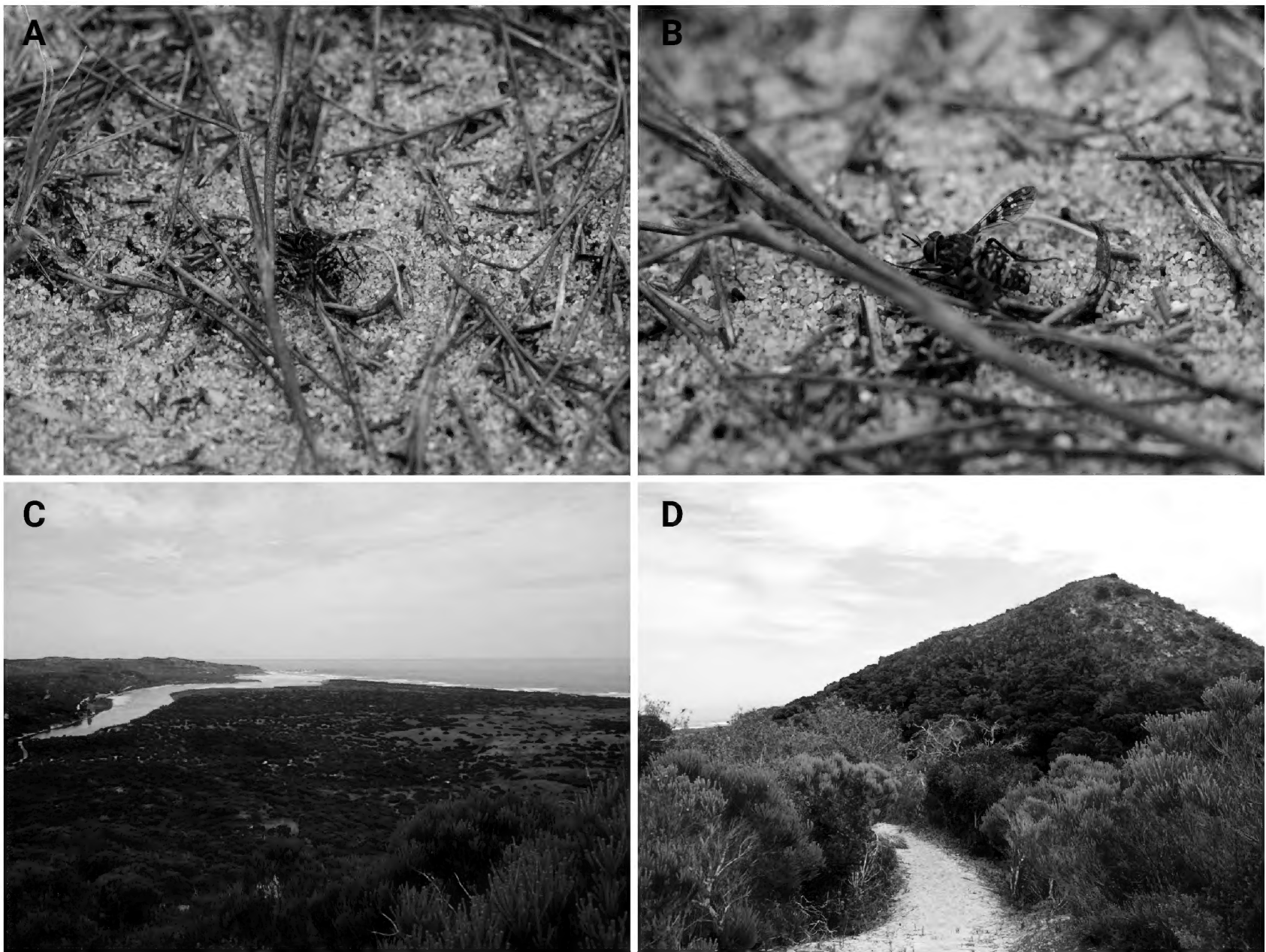


Figure 2. Goukamma Nature Reserve, where *Enica longirostris* were identified by T. Dikow 2015-12-09 **A, B** *Enica longirostris* in nature (<https://www.inaturalist.org/observations/63361971>) **C, D** habitat of Goukamma Nature Reserve along Bush Pig trail (fynbos-covered sand dune; South Africa: Western Cape, approx. 34°03'41"S, 022°56'08"E).

Table 1. Collecting event summary for *Enica* species.

Species	Specimens Collected	Collecting Events	Earliest Collection	Latest Collection
<i>E. adelphe</i> sp. nov.	3	3	1986	1989
<i>E. clavicornis</i>	11	4	1933	2009
<i>E. eremophila</i>	76	27	1890	2013
<i>E. henicoides</i>	6	5	1920	1950
<i>E. imitata</i>	5	3	1952	2002
<i>E. longirostris</i>	216	61	1874	2019
<i>E. sporanthera</i>	4	3	1931	1947
<i>E. syrticola</i>	30	11	1917	2019

Materials and methods

Specimens were observed using a LEICA MZ 6 stereo microscope. Wings were measured from the tegula to the distal tip of the wing. For species with male terminalia not already described by Hesse in 1956, *Enica imitata* and *Enica adelphe* sp. nov., dissections were completed. Terminalia were dissected by first cutting the terminalia from the specimens, placing them in 10% potassium hydroxide (KOH) at 55 °C followed by rinsing in distilled water (H2O). They were temporarily stored in 100% glycerol (C3H8O) for examination and placed in polyethylene vials containing 100% glycerol attached to the specimen’s pin.

Distribution maps were plotted using SimpleMapper (<http://www.simple-mapper.net>; Shorthouse 2010) with specimen locality data that was available

or could be gathered through Google Earth. The distribution maps also include Biodiversity Hotspots defined by Conservation International (Mittermeier et al. 1998; Myers et al. 2000; Mittermeier et al. 2005).

Photographs and illustrations

Photographs of pinned specimens were taken using a GIGAmacro Magnifying2 system, a Canon EOS D5 Mark IV full-frame DSLR, a Canon MP-E 65 mm f2.8 macro lens and illuminated by a twin flash.

Dissected terminalia were illustrated using a 10 × 10 ocular grid on Zeiss StereoDiscovery V8 stereo microscope. Illustrated terminalia were scanned and then converted to vector-graphics in Adobe Illustrator software.

Terminology

Terminology follows Cumming and Wood (2017) and adopts Stuckenberg (1999) for the antenna and Wooton and Ennos (1989) for the wing venation. Abdominal tergites are abbreviated with “T” and sternites with “S”. The following terms are abbreviated as follows: prothoracic=pro; mesothoracic=mes; metathoracic=met. The term pubescence refers to the short, fine microtrichia densely covering the cuticle on some body parts. The Torre-Bueno Glossary of Entomology (Nichols 1989) was used for other generalized terms.

Species descriptions and re-descriptions

Using Lucid Builder (version 4. 0.10), a character matrix of 140 features and 281 character states were used to generate species descriptions, which are based on a composite of all specimens and not just the holotype. The generated species descriptions were deposited in the Zenodo data depository as XML Structure of Descriptive Data (SDD) files. Taxon names were registered in ZooBank (Pyle and Michel 2008).

Keys

An online, interactive dichotomous key and multi-access, matrix-based key were created using Lucid Builder (version 4.0.10). These can be accessed on Lucidcentral (<https://keys.lucidcentral.org/keys/v4/enica>).

Institutions providing specimens

Specimens used in this study were provided by the institution listed below. The institution Code used for citing depositories is provided. In addition, a link to the record in the Global Registry of Scientific Collections (GRSciColl, <https://www.gbif.org/grscicoll>) is provided.

NHMUK The Natural History Museum, London, UK. <https://www.gbif.org/grscicoll/institution/1D808A7C-1F9E-4379-9616-ED-B749ECF10E>.

NMSA KwaZulu-Natal Museum, Pietermaritzburg, KwaZulu-Natal, South Africa <https://www.gbif.org/grscicoll/institution/F7612BDF-65B0-4B26-A734-7494A5E6CE85>.

SAMC Iziko South African Museum, Cape Town, Western Cape, South Africa. <https://scientific-collections.gbif.org/institution/ace2b65e-d36f-4727-84d5-6ffe047c4bf2>.

USNM United States National Museum, Smithsonian Institution, Washington, D.C., USA. <https://scientific-collections.gbif.org/institution/586ee56e-b0fe-4dff-b7f9-aeb104f3308a>.

Taxonomy

Enica Macquart, 1834

Enica Macquart, 1834: 399. Type species: *Anthrax longirostris* Wiedemann, 1819, by monotypy (Evenhuis and Greathead 2015).

Lagochilus Loew, 1860: 87.

Alonipola Rondani, 1863: 71.

Nomalonia Rondani, 1863: 71, syn. nov. Type species: *Cyllenina afra* Wiedemann, 1828, [misidentification = *Nomalonia eremophila* Hesse, 1975], by original designation (Evenhuis and Greathead 2015).

Taxon depository. ZooBank: <https://zoobank.org/62E96F05-7FF0-4960-8DCA-C2CECA96F6EB>.

Diagnosis. The genus can be delineated by its creamy white coloration found on the facial region, side of frons, and head behind the eyes. Body with bristles, dense scales on abdomen with dark brown or reddish scales, often with white band of scales on edges of tergites. Unlike other species in Cythereinae, males are holoptic, wing scales are present, and the hypandrium is not visible as a separate structure.

Distribution, biodiversity hotspots, phenology, and biology. Known only from South Africa, primarily in the Western Cape, Northern Cape, and the western edge of the Eastern Cape (Fig. 1). The genus can be found in three biodiversity hotspots in South Africa, the Succulent Karoo, Cape Floristic Region, and the Maputaland-Pondoland-Albany. Adult flies are active from August - January. Adult flies are pollinators and have been observed visiting flowers (<https://www.inaturalist.org/observations/64518819>). Larvae are unknown but presumed parasitoids as other Bombyliidae, hosts are unknown (Yeates and Greathead 1997).

Enica adelphe sp. nov.

<https://zoobank.org/4BD142FC-44B9-4C63-9524-FC88187C4E6D>

Fig. 3

Diagnosis. The species is distinguished from other species in the genus by the absence of scales on the occiput, two dark elongated spots on the occiput extending from the dorsal to the lateral margin, red cuticle on the abdomen past tergite 4, and the dark brown scales on the metathoracic femur.

Etymology. This species is named in honor of author L. Rollinson's sister, Jessica Rollinson. The specific epithet is Greek for sister.

Description. Head: wider than high, creamy white; males holoptic, females dichoptic, vertex and compound eyes at same level; frons (at level of antennal insertion) more or less parallel-sided, female: light brown to reddish-orange,

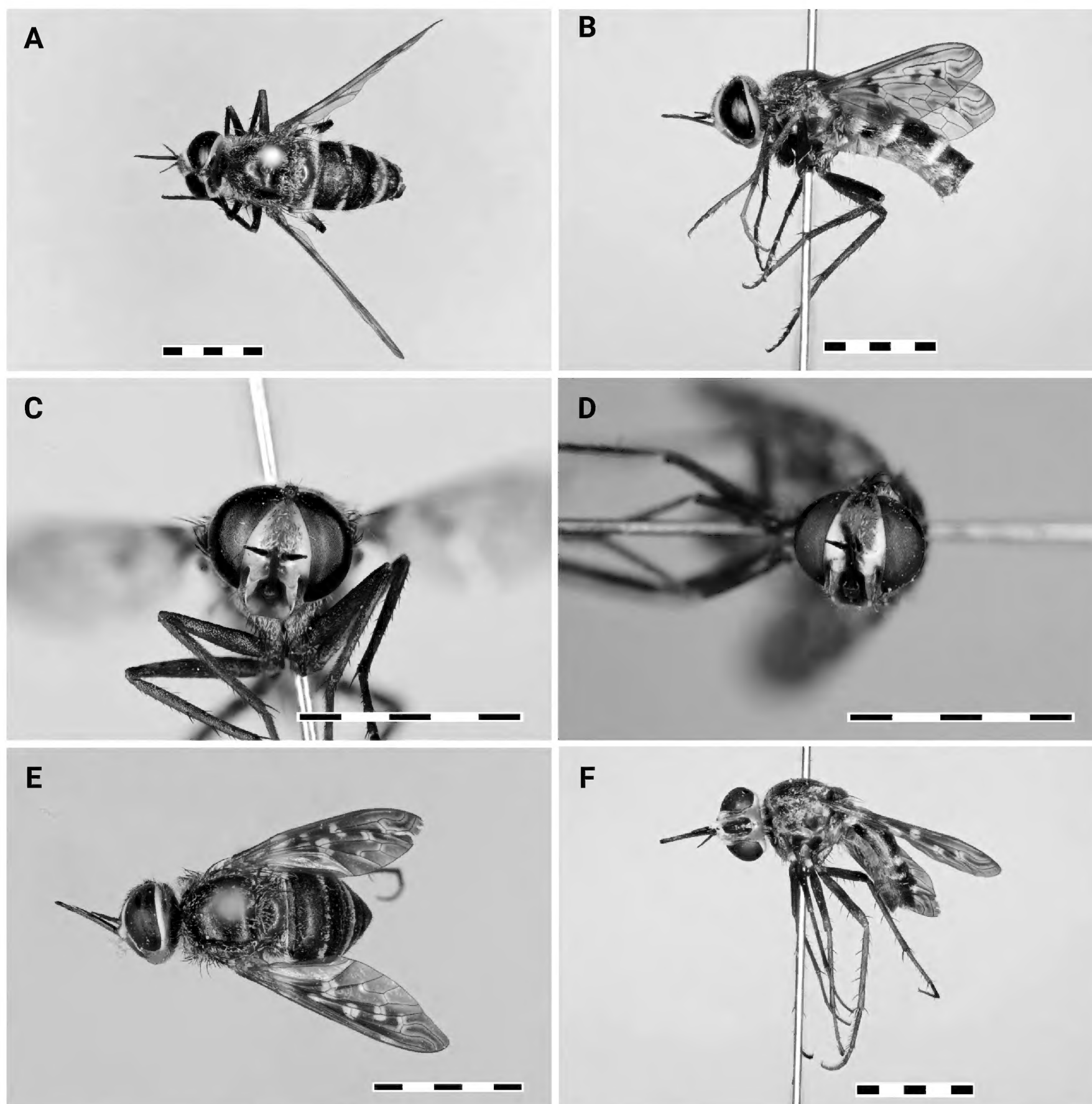


Figure 3. *Enica adelphe* sp. nov. NMSA-DIP-89520 ♂, holotype (**A–C**) **A** habitus, dorsal view **B** habitus, lateral view **C** habitus, frontal view; *Enica adelphe* sp. nov. SAM-DIP-A004969, ♀ (**D–F**) **D** habitus, frontal view **E** habitus, dorsal view **F** habitus, lateral view. Scale bars: 5 mm.

darker than head, with dark brown to black upside down “V” spot not touching eyes, males: similar to head, slightly darker than head; frons black setose, with white scales, males no setation near eyes, females setose near eyes only dorsally; ocellar tubercle slightly raised, dark reddish brown to black, black macrosetose, white or light brown scales posteriorly; occiput whitish–yellow setose, without scales, dorsal eye margin with dark brown to black spots present, not touching eye margin, extending more than three times as long as wide; gena significantly darkened to reddish brown or black, extremely sparsely setose.

Proboscis and maxillary palpus: proboscis straight, black; labella only forming distal tip of proboscis, apically rounded, minute black setose; maxillary palpus not extending beyond oral cavity, black, brown setose.

Antenna: black; scape creamy white, approximately as long as pedicel, white and black setose laterally and dorsally, setae extending to tip of pedicel; pedicel

dark brown, short black setose dorsally; postpedicel black, tapering distally, longer than scape and pedicel combined, black scales dorsally; stylus reduced, only apical 'seta-like' sensory element present, situated sub-apically in cavity on postpedicel.

Thorax: reddish brown and light orangish brown; scutum predominantly black, reddish on margins, grey to brown scales centrally and white scales peripherally; setation: acr setae present, black, dc setae present, black; prosternum silvery grey pubescence; proepisternum silvery grey pubescence, long yellowish-white setose, white scales; antepnotum silvery grey pubescence, light yellow scales anteriorly; postpronotum silvery grey pubescence, asetose, with medial dark brown to black stripe; postpronotal lobe silvery grey pubescence, white scales, white and black setose; pleuron silvery grey pubescence; proepimeron silvery grey pubescence, asetose; anepisternum silvery grey pubescence, white scales ventrally, black macrosetose dorsally; anepimeron silvery grey pubescence, asetose; katepisternum silvery grey pubescence, white scales dorsally; laterotergite silvery grey pubescence, asetose; meron + metepisternum silvery grey pubescence, asetose or white scales dorsally; metepimeron silvery grey pubescence, asetose; scutellum red, anterior black spot or red, medial black stripe, apubescent, ds sctl setae black macrosetose, ap sctl setae comprised of yellowish-white scales.

Leg: dark brown, covered in scales, some regular setae present; pro coxa dark reddish brown, silvery grey pubescence, white scales, thin white setose, thick black setose; pro femur dark brown, dark brown scales, black setose; pro tibia light brown, raised short and fine dark brown setose ventrally, large black setose dorsally; mes coxa dark reddish brown, white pubescence, white scales, thick black setose; mes femur dark brown, dark brown scales, black setose; mes tibia light brown, dark brown scales, long black setose, distal tip with long black setae; met coxa dark reddish brown, white pubescent, white scales, thin white setose, thick black setose, anteriorly without any protuberance; met trochanter short black setose ventrally, white scales dorsally, without protuberance; met femur dark brown, dark brown scales, long and thick black setose; met tibia light brown, dark brown scales, large black setose, distal tip with long black macrosetae of varying sizes; proximal pro, mes, and met tarsomeres longer than following 2 tarsomeres combined, proximal met tarsomere as wide as following tarsomeres; pro tarsomere with dark brown scales dorsally, black setose ventrally; mes tarsomere with dark brown scales dorsally, black setose ventrally; met tarsomere with dark brown scales dorsally, black setose ventrally; claw smoothly arched distally.

Wing: 8.2–9.8 mm, microtrichia absent; membrane color pattern males: minimal spots of infuscation in r_{2+3} , br, and bm, females: darkly infuscated except for white tinted base of wing, r-r, r-m, base of r_{2+3} , base of m_2 , m-cu, split between M_1+2 and M_3 ; costal vein dark brown short setose, whitish clear setose proximally; R_{2+3} distally distinctly arching anteriorly, r_1 open; R_4 terminating anterior to wing apex, distinctly arching anteriorly; cell r_4 open, proximally R_4 and R_5 parallel, R_4 strongly diverging anteriorly in distal $2/3$; R_5 terminating posterior to wing apex; r_5 open; M_1 terminating posterior to wing apex; cell d closed by base of M_2 and m-m, r-m situated in distal $1/4$; m_3 open; cua open; alula greatly reduced, nearly straight wing margin; haltere stem dark brown setose.

Abdomen: shape ovate, predominantly black anteriorly and red posteriorly; tergites smooth, setae with small sockets only; T1 predominantly black, no red or a very thin line of red posteriorly, snow-white setose, with scales; T2–7

predominantly dark reddish brown, dark brown setose, white scales, white scales in lines on posterior margins of T2 and T4; S1–8 predominantly light reddish-orange, yellow to white scales, thin black setose and long white setose; lateral margin black setae remaining close to abdomen, male T8 brown scales, black setose.

Terminalia: gonocoxites longer than wide, broader at base, gradually narrowing, fused almost completely with phallus, with short, fine hairs apically; gonostylus with sharp projection; phallus inflated and helmet-like at base, apically separating from gonocoxite, continuing straight apically; lateral aedeagal apodeme round with medial concavity; ejaculatory apodeme long, rounded in lateral view, extending significantly past anterior margin of the gonocoxites, ending at start of lateral strut. (Fig. 4B, D)

Type Locality. South Africa: Northern Cape: Richtersveld, Grootderm 42 km NE (28°22'30"S, 016°55'00"E).

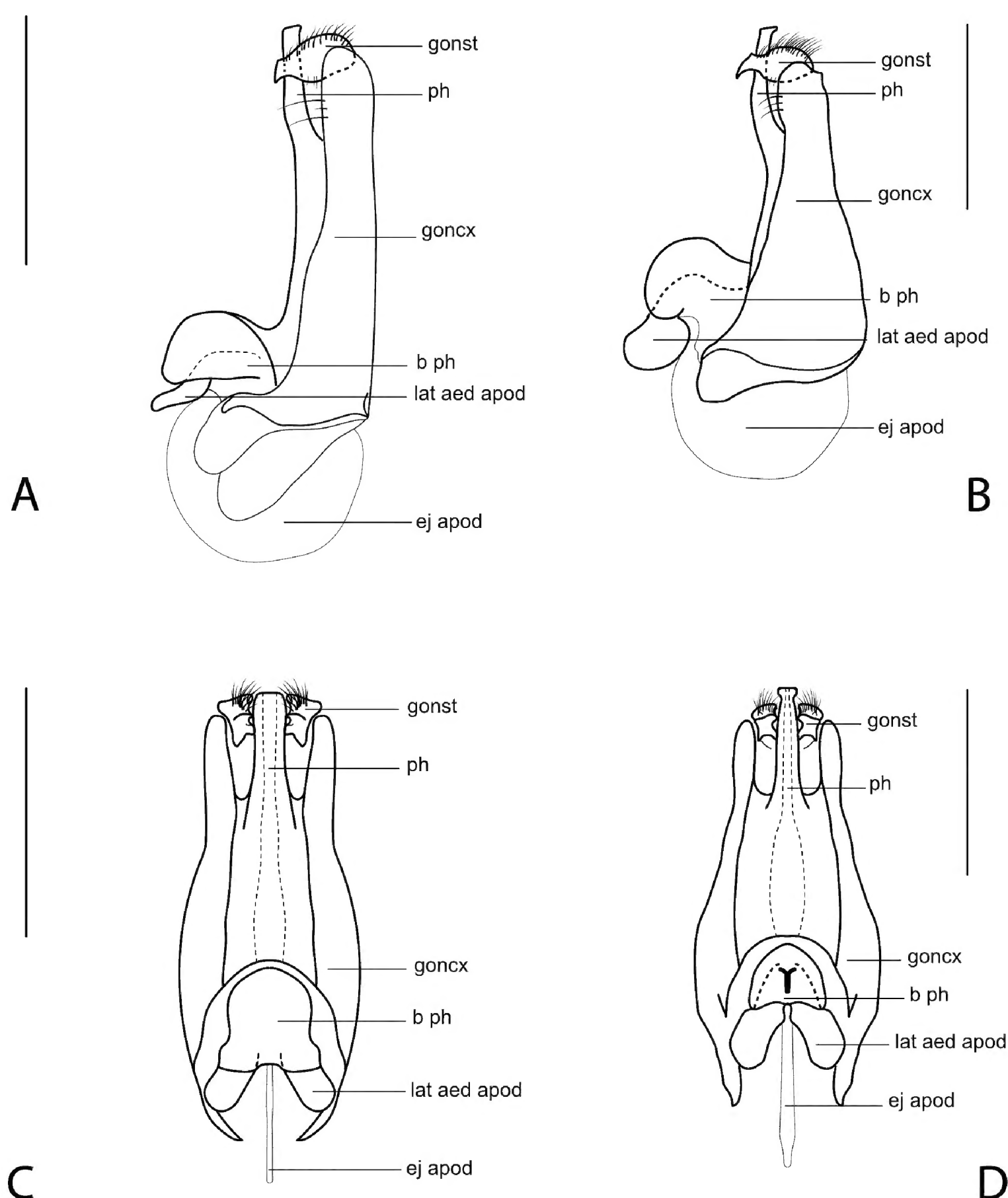


Figure 4. Lateral and ventral view of *Enica* male terminalia. Terminalia of *Enica imitata* NMSA-DIP-90025 (**A, C**); Terminalia of *Enica adelphe* sp. nov. NMSA-DIP-89520 (**B, D**). Abbreviations: b ph = base of phallus; ej apod = ejaculatory apodeme; goncx = gonocoxite; gonst = gonostylus; lat aed apod = lateral aedeagal apodeme; ph = phallus. Scale bars: 1 mm.

Material examined. Holotype. SOUTH AFRICA – Northern Cape • 1♂ Richtersveld, Grootderm 42 km NE; 28°22'30"S, 016°55'00"E; 200 m a.s.l.; 03 Sep. 1989; Londt, Jason, Stuckenberg, Brian leg.; eroded sandy valley with flowers; NMSA-DIP-89520, NMSA

Paratypes. SOUTH AFRICA – Northern Cape • 1♀ Richtersveld Numees (= Numees abandoned mine); 28°16'59"S, 016°58'00"E; 09 Sep. 1986; Struck, M. leg.; SAM-DIP-A004969, SAMC • 1♂ Richtersveld, Grootderm 50 km NE; 28°19'00"S, 016°55'00"E; 350 m a.s.l.; 03 Sep. 1989; Londt, Jason, Stuckenberg, Brian leg.; sandy valley below a rocky hillside; NMSA-DIP-89519, NMSA

Distribution, Biodiversity hotspots, phenology, and biology. Known from only two localities in the Northern Cape in South Africa (Fig. 5). Although it is only known from South Africa, it is likely that this species extends northward into Namibia. It is only known from 3 specimens, between 2 collecting events in 1986 and 1989. This species is known to occur in the Succulent Karoo biodiversity hotspot. Adult flies have only been collected in September (Table 2). Adult flies are presumed pollinators, as other species in the genus have been observed visiting flowers (<https://www.inaturalist.org/observations/64518819>). Larvae are unknown but presumed parasitoids as other Bombyliidae, hosts are unknown (Yeates and Greathead 1997).

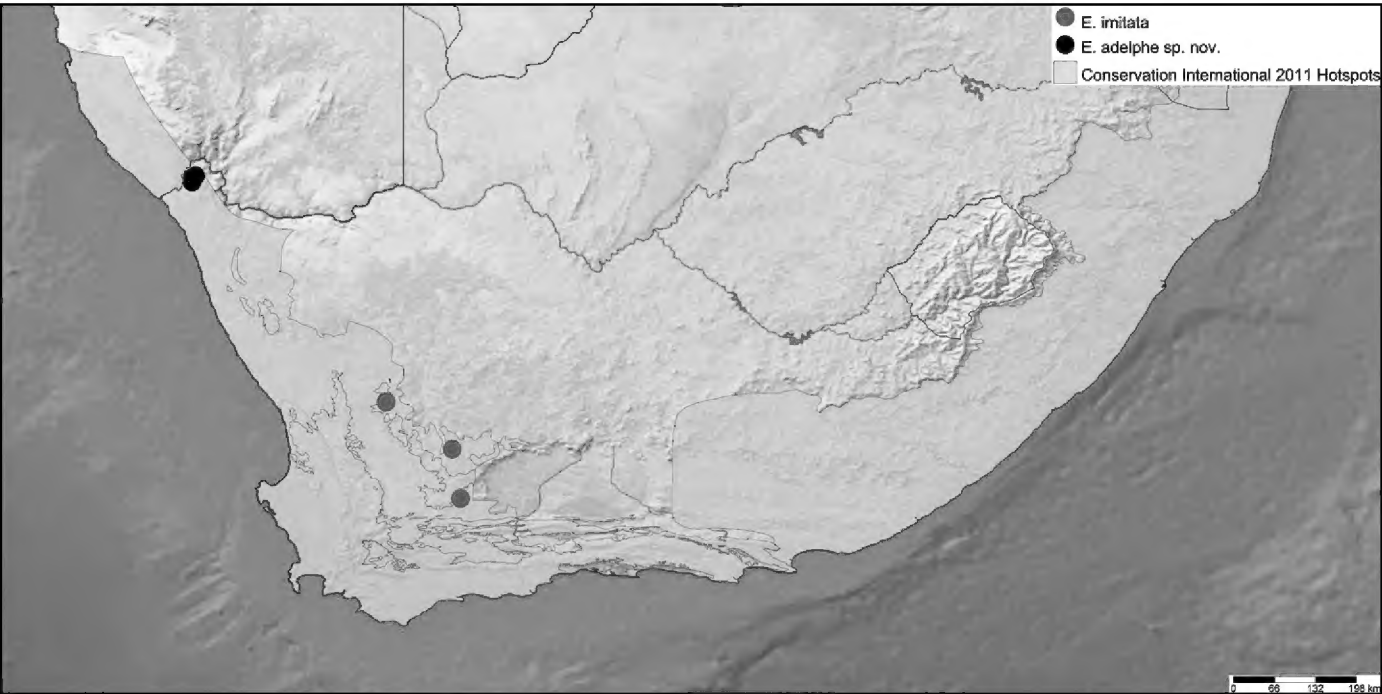


Figure 5. Map of southern Africa with elevational relief and biodiversity hotspots (sensu Conservation International in grey) and distribution of *E. imitata* and *E. adelphe* sp. nov. specimens studied.

Table 2. Seasonal imago flight activity for *Enica* species through number of specimens collected for each month.

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<i>E. adelphe</i> sp. nov.	-	-	-	-	-	-	-	-	3	-	-	-
<i>E. clavicornis</i>									2	1	8	-
<i>E. eremophila</i>	3								3	19	40	11
<i>E. henicoides</i>										2	3	1
<i>E. imitata</i>									1	2	2	-
<i>E. longirostris</i>	6	-	-	-	-	-	-	1	11	86	39	73
<i>E. sporanthera</i>	-	-	-	-	-	-	-	-	1	-	3	-
<i>E. syrticola</i>								1	5	22	2	-

***Enica clavicornis* (Hesse, 1956), comb. nov.**

Fig. 6

Taxon depository. ZooBank: <https://zoobank.org/A4E281A4-196C-46DE-83F0-93D4E9CF0777>.

Diagnosis. The species is distinguished from other species in the genus by the light creamy tan flattened setae on the haltere and the club-shaped postpedicel.

Description. **Head:** wider than high, creamy white; males holoptic, females dichoptic, vertex and compound eyes at same level; frons (at level of antennal insertion) more or less parallel-sided, female: light brown to reddish-orange, darker than head, without dark spot, males: similar to head, slightly darker than head; frons black setose, with white scales, broadly setose near eyes, extending ventral to antennae; ocellar tubercle slightly raised, dark reddish brown to black, black macrosetose, white or light brown scales posteriorly or black and light yellow macrosetose, white or light brown scales posteriorly; occiput whitish–yellow setose, brown setose on occiput spots, white scales antero-dorsally, dorsal eye margin with dark brown to black spots not more than three times as long as wide, absent in males; gena creamy white, whitish–yellow setose.

Proboscis and maxillary palpus: proboscis straight, black; labella only forming distal tip of proboscis, apically rounded, minute black setose; maxillary palpus not extending beyond oral cavity, light brown to brown, light yellowish-brown setose.

Antenna: dark brown; scape creamy white, approximately as long as pedicel, white and black setose laterally and dorsally, setae short, not extending to end of pedicel; pedicel creamy white, short black setose dorsally; postpedicel dark brown, proximal bulb with elongated distal part, longer than scape and pedicel combined, white or light yellow scales dorsally; stylus reduced, only apical ‘seta-like’ sensory element present, situated sub–apically in cavity on postpedicel.

Thorax: light orangish brown; scutum medially black, red around margins, red sometimes extends in medial line from behind head to center of thorax, yellowish-white to white scales with two submedial longitudinal stripes of white scales; setation: acr setae present, black, dc setae present, black; prosternum silvery grey pubescence; proepisternum silvery grey pubescence, long yellowish-white setose, white scales; anteprenotum silvery grey pubescence, light yellow scales anteriorly; postpronotum silvery grey pubescence, asetose, with medial dark brown to black stripe; postpronotal lobe silvery grey pubescence, long white flattened setose; pleuron silvery grey pubescence; proepimeron silvery grey pubescence, asetose; anepisternum silvery grey pubescence, long white scales ventrally, black macrosetose and white setose dorsally; anepimeron silvery grey pubescence, long white scales, white setose; katepisternum silvery grey pubescence, long white scales dorsally; laterotergite silvery grey pubescence, asetose; meron + metepisternum silvery grey pubescence, long white scales dorsally; metepimeron silvery grey pubescence, asetose; scutellum light orangish red, slight anterior black spot, apubescent, ds sctl setae black macrosetose, ap sctl setae comprised of light brown and white scales, black setose, white scales, black setose or yellowish-white scales.

Leg: light orangish brown, covered in scales, some regular setae present; procoxa light orangish brown, silvery grey pubescence, white scales, thin white se-

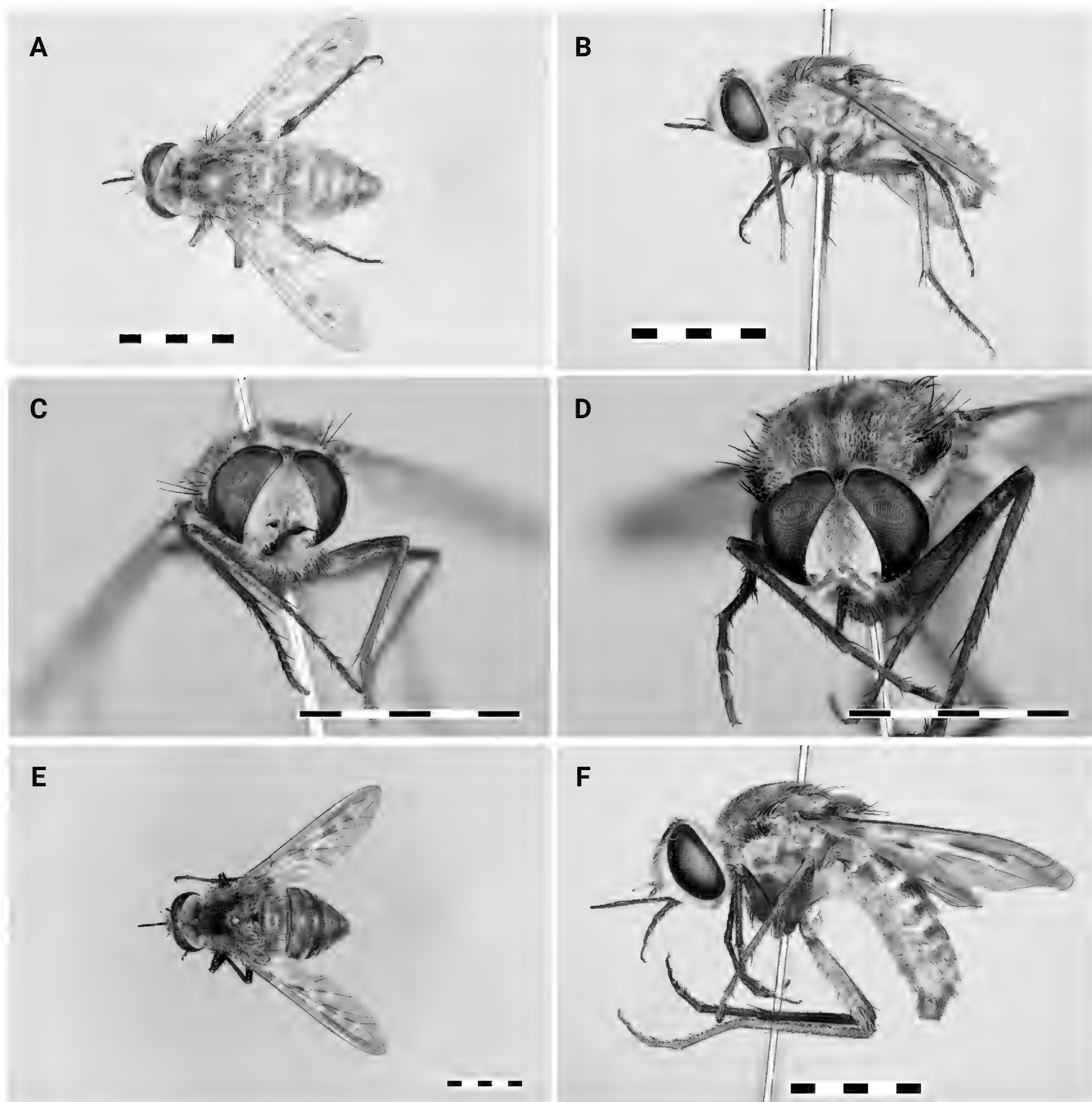


Figure 6. *Enica clavicornis* ♂ NMSA-DIP-93558 (A–C) **A** habitus, dorsal view **B** habitus, lateral view **C** habitus, frontal view; *Enica eremophila* ♂ NMSA-DIP-93041 (D–F) **D** habitus, frontal view **E** habitus, dorsal view **F** habitus, lateral view. Scale bars: 5 mm.

tose, thick black setose; pro femur light orangish brown, white scales proximally, brown scales distally, thick black setose ventrally; pro tibia light brown, raised short and fine light brown setose ventrally, large black setose dorsally; mes coxa light orangish brown, white pubescence, white scales, thin white setose, thick black setose; mes femur light orangish brown, white scales proximally, brown scales distally, thick black setose ventrally; mes tibia light brown, light brown scales, long black setose, distal tip with long black setae; met coxa light orangish brown, white pubescent, white scales, thin white setose, thick black setose, anteriorly without any protuberance; met trochanter short black setose ventrally, white scales dorsally, without protuberance; met femur light orangish brown, white scales proximally, brown scales distally, long and thick black

setose ventrally; met tibia light brown, light brown scales, large black setose, distal tip with long black macrosetae of varying sizes; proximal pro, mes, and met tarsomeres longer than following 2 tarsomeres combined, proximal met tarsomere as wide as following tarsomeres; pro tarsomere with brown scales dorsally, black setose ventrally; mes tarsomere with brown scales dorsally, black setose ventrally; met tarsomere with brown scales dorsally, black setose ventrally; claw smoothly arched distally.

Wing: 9.1–10.1 mm, microtrichia absent; membrane color pattern males: minimal spots of infuscation in r_{2+3} , br, and bm, females: darkly infuscated except for white tinted base of wing, r-r, r-m, base of r_{2+3} , base of m_2 , m-cu, split between M_1+2 and M_3 ; costal vein dark brown short setose, whitish clear setose proximally; R_{2+3} distally distinctly arching anteriorly, r_1 open; R_4 terminating anterior to wing apex, distinctly arching anteriorly; cell r_4 open, proximally R_4 and R_5 parallel, R_4 strongly diverging anteriorly in distal $2/3$; R_5 terminating posterior to wing apex; r_5 open; M_1 terminating posterior to wing apex; cell d closed by base of M_2 and m-m, r-m situated in distal $1/4$; m_3 open; cua open; alula greatly reduced, nearly straight wing margin; haltere stem light yellowish-brown setose.

Abdomen: shape ovate, reddish-orange with a black spot on T2, middle of T3; tergites smooth, setae with small sockets only; T1 reddish yellow to light brown, light yellowish-brown to light whitish-brown setose, with scales; T2–T7 predominantly reddish-orange, thin black setose, brown to light yellowish-brown scales, scales uniformly colored throughout; S1–8 predominantly light reddish-orange, yellow to white scales, thin black setose and long white setose; lateral margin black setae remaining close to abdomen, male T8 dull, light yellow scales, black setose.

Terminalia: Male terminalia drawings in Hesse (1956, p45): <https://www.biodiversitylibrary.org/page/40844180>.

Material examined. Holotype. SOUTH AFRICA – Northern Cape • 1♂ Hondeklip-Baai; 30°18'47"S, 017°16'30"E; 11 Nov. 1933; van Son, G. leg.; NM-SA-DIP-051430, NMSA

Paratypes. SOUTH AFRICA – Northern Cape • 1♂ Wallekraal; 30°23'18"S, 017°30'32"E; Oct. 1950; SAM Museum Staff leg.; SAM-DIP-A002151, SAMC

SOUTH AFRICA – Western Cape • 1♂ Eland's Bay, Leipoldtville; 32°18'44"S, 018°20'29"E; Nov. 1948; SAM Museum Staff leg.; SAM-DIP-A002152, SAMC • 1♀ Eland's Bay, Leipoldtville; 32°18'44"S, 018°20'29"E; Nov. 1948; SAM Museum Staff leg.; SAM-DIP-A002152, SAMC • 1♂ Eland's Bay, Leipoldtville; 32°18'44"S, 018°20'29"E; Nov. 1948; SAM Museum Staff leg.; SAM-DIP-A002152, SAMC • 1♂ Eland's Bay, Leipoldtville; 32°18'44"S, 018°20'29"E; Nov. 1948; SAM Museum Staff leg.; SAM-DIP-A002152, SAMC • 1♂ Eland's Bay, Leipoldtville; 32°18'44"S, 018°20'29"E; Nov. 1948; SAM Museum Staff leg.; SAM-DIP-A002152, SAMC • 1♂ Eland's Bay, Leipoldtville; 32°18'44"S, 018°20'29"E; Nov. 1948; SAM Museum Staff leg.; SAM-DIP-A002152, SAMC.

Other material. SOUTH AFRICA – Northern Cape • 1♀ Hondeklip-Baai; 30°18'47"S, 017°16'30"E; 11 Nov. 1933; van Son, G. leg.; SAM-DIP-A002150, SAMC.

SOUTH AFRICA – Western Cape • 1♀ Lutzville, 6 km NE; 31°35'43"S, 018°22'55"E; 35 m a.s.l.; 29 Sep. 2009; Londt, Jason, Dikow, Torsten leg.; red vegetated sand dune, woody fynbos; NMSA-DIP-93557, NMSA • 1♂ Lutzville, 6 km NE; 31°35'43"S, 018°22'55"E; 35 m a.s.l.; 29 Sep. 2009; Londt, Jason, Dikow, Torsten leg.; Red vegetated sand dune, woody fynbos; NMSA-DIP-93558, NMSA.

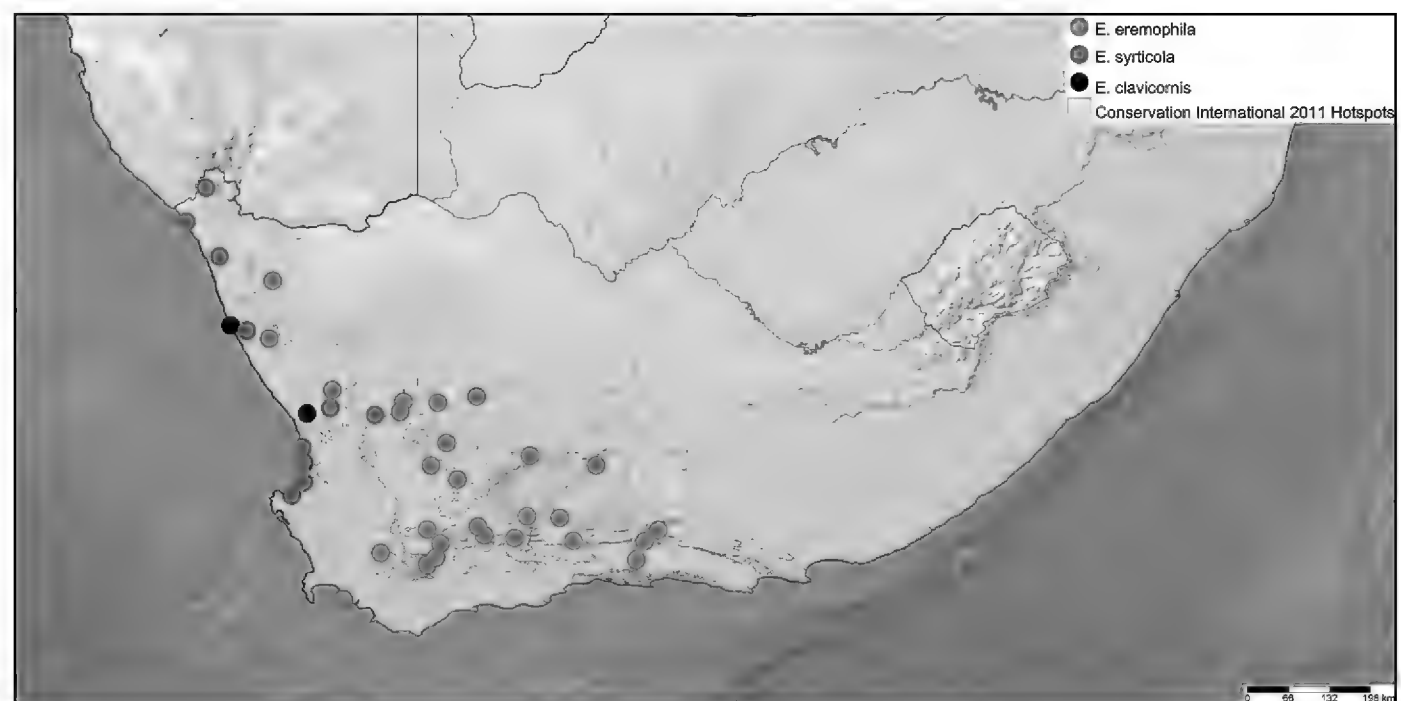


Figure 7. Map of southern Africa with elevational relief and biodiversity hotspots (sensu Conservation International in grey) and distribution of *E. eremophila*, *E. syrticola* and *E. clavicornis* specimens studied.

Distribution, biodiversity hotspots, phenology, and biology. Known from localities in the Northern Cape and Western Cape of South Africa (Fig. 7). This species is only known from 11 specimens, collected in 4 collecting events spread between 1933–2009. The species is known to occur in the Succulent Karoo biodiversity hotspot. Adult flies are active from September - November (Table 2). Adult flies are presumed pollinators, as other species in the genus have been observed visiting flowers (<https://www.inaturalist.org/observations/64518819>). Larvae are unknown but presumed parasitoids as other Bombyliidae, hosts are unknown (Yeates and Greathead 1997).

***Enica eremophila* (Hesse, 1975), comb. nov.**

Fig. 6

Taxon depository. ZooBank: <https://zoobank.org/04C520D8-0187-4ECE-B88B-CCB9B25937A6>.

Diagnosis. The species is distinguished from other species in the genus by the reddish orange postpedicel and oblique rectangular white stained area between R_1 and CuA.

Description. Head: wider than high, creamy white; males holoptic, females dichoptic, vertex and compound eyes at same level; frons (at level of antennal insertion) more or less parallel-sided, female: light brown to reddish-orange, darker than head, without dark spot, males: similar to head, slightly darker than head, rarely reddish-orange, much darker than head; frons black setose, with white scales, males no setation near eyes, females setose near eyes only dorsally; ocellar tubercle slightly raised, dark reddish brown to black, black macrosetose, white or light brown scales posteriorly; occiput whitish–yellow setose, without scales, antero-dorsally with dark brown to black spots, usually oval or dorsal eye margin with dark brown to black spots present, not touching eye margin, extending more than three times as long as wide; gena creamy white, extremely sparsely setose.

Proboscis and maxillary palpus: proboscis straight, black; labella only forming distal tip of proboscis, apically rounded, minute black setose; maxillary

palpus not extending beyond oral cavity, light brown to brown, light yellowish-brown setose.

Antenna: reddish brown; scape creamy white, approximately as long as pedicel, black setose dorsally and ventrally, setae short, not extending to end of pedicel; pedicel reddish brown or creamy white, short black setose dorsally; postpedicel reddish brown, tapering distally, longer than scape and pedicel combined, dark setose dorsally; stylus reduced, only apical 'seta-like' sensory element present, situated sub-apically in cavity on postpedicel.

Thorax: light orangish brown; scutum medially black, red around margins, red sometimes extends in medial line from behind head to center of thorax, light to dark brown scales, two submedial stripes with lighter scales; setation: acr setae present, black, dc setae present, black; prosternum silvery grey pubescence; proepisternum silvery grey pubescence, long yellowish-white setose, white scales; anteprenotum silvery grey pubescence, dull white scales anteriorly; postpronotum silvery grey pubescence, asetose, with medial dark brown to black stripe; postpronotal lobe silvery grey pubescence, long white flattened setose, black macrosetose; pleuron silvery grey pubescence; proepimeron silvery grey pubescence, asetose; anepisternum silvery grey pubescence, white scales ventrally, black macrosetose dorsally; anepimeron silvery grey pubescence, asetose; katepisternum silvery grey pubescence, white scales dorsally; laterotergite silvery grey pubescence, asetose; meron + metepisternum silvery grey pubescence, asetose; metepimeron silvery grey pubescence, white setose dorsally; scutellum red, anterior black spot, apubescent, ds sctl setae black macrosetose, ap sctl setae comprised of white scales, black setose.

Leg: light brown to brown or light orangish brown, covered in scales, some regular setae present; pro coxa brown or light orangish brown, silvery grey pubescence, white scales, thick black setose; pro femur brown or light orangish brown, white scales ventrally, brown scales dorsally, few short black setae; pro tibia light brown, raised short and fine dark brown setose ventrally, large black setose dorsally; mes coxa light orangish brown, white pubescence, white scales, thick black setose; mes femur brown or light orangish brown, white scales ventrally, brown scales dorsally, few short black setae; mes tibia light brown, dark brown scales, long black setose, distal tip with long black setae; met coxa brown or light orangish brown, white pubescent, white scales, thick black setose, anteriorly without any protuberance; met trochanter short black setose ventrally, white scales dorsally, without protuberance; met femur brown or light orangish brown, white scales ventrally, brown scales dorsally, few short black setae; met tibia light brown, dark brown scales, large black setose, distal tip with long black macrosetae of varying sizes; proximal pro, mes, and met tarsomeres longer than following 2 tarsomeres combined, proximal met tarsomere as wide as following tarsomeres; pro tarsomere with dark brown scales dorsally, black setose ventrally; mes tarsomere with dark brown scales dorsally, black setose ventrally; met tarsomere with dark brown scales dorsally, black setose ventrally; claw smoothly arched distally.

Wing: 10.1–10.3 mm, microtrichia absent; membrane color pattern males: slightly infuscated except for white tinted base of wing, oblique rectangular area between CuA and R_1 , r-r, r-m, and base of m_2 , females: darkly infuscated except for white tinted base of wing, oblique rectangular area between CuA and R_1 , r-r, r-m, and base of m_2 ; costal vein dark brown short setose, whitish-clear setose proximally; R_{2+3} distally distinctly arching anteriorly, r_1 open; R_4 terminat-

ing anterior to wing apex, distinctly arching anteriorly; cell r_4 open, proximally R_4 and R_5 parallel, R_4 strongly diverging anteriorly in distal $2/3$; R_5 terminating posterior to wing apex; r_5 open; M_1 terminating posterior to wing apex; cell d closed by base of M_2 and m-m, r-m situated in distal $1/4$; m_3 open; cua open; alula greatly reduced, nearly straight wing margin; haltere stem dark brown setose.

Abdomen: shape ovate, predominantly black anteriorly and red posteriorly; tergites smooth, setae with small sockets only; T1 predominantly reddish-orange, some black, reddish-orange or predominantly black, no red or a very thin line of red posteriorly, light yellowish-brown to light whitish brown setose, with scales; T2–T7 black anteriorly, red posteriorly, thin black setose, brown to light yellowish-brown scales, lighter scales on spots (sometimes line) along posterior margins of T2–4; S1–8 predominantly light reddish-orange, yellow to white scales, thin black setose and long white setose; lateral margin black setae remaining close to abdomen, male T8 white scales, black setose.

Terminalia: Male terminalia drawings under the name *Enica afra* in Hesse (1956, p38): <https://www.biodiversitylibrary.org/page/40844173>.

Material examined. Holotype. SOUTH AFRICA – Western Cape • 1♂ Touws River to Hondewater, 18 miles E; 33°28'60"S, 020°19'01"E; Dec. 1962; SAM Museum Staff leg.; SAM-DIP-A002153, SAMC.

Other material. SOUTH AFRICA – Eastern Cape • 1♂ Willowmore; 33°17'00"S, 023°29'00"E; 1917; Brauns, H. leg.; NMSA-DIP-054456, NMSA • 1♀ Willowmore; 33°17'00"S, 023°29'00"E; 01 Nov. 1919; Brauns, H. leg.; NMSA-DIP-054457, NMSA • 1♀ Willowmore; 33°17'00"S, 023°29'00"E; 25 Nov. 1922; Brauns, H. leg.; NMSA-DIP-054458, NMSA • 1♀ Willowmore, Modderfontein; 33°17'00"S, 023°29'00"E; 04 Dec. 1920; Brauns, H. leg.; NMSA-DIP-056057, NMSA • 1♀ Willowmore, Modderfontein; 33°17'00"S, 023°29'00"E; 04 Dec. 1920; Brauns, H. leg.; NMSA-DIP-89505, NMSA • 1♂ Willowmore, Georgida; 33°26'00"S, 023°19'00"E; 05 Jan. 1927; Brauns, H. leg.; NMSA-DIP-89506, NMSA • 1♂ Willowmore, Georgida; 33°26'00"S, 023°19'00"E; 05 Jan. 1927; Brauns, H. leg.; NMSA-DIP-89507, NMSA.

SOUTH AFRICA – Northern Cape • 1♂ Akkerendam Nature Reserve; 31°25'15"S, 019°46'54"E; 1065 m a.s.l.; 15 Nov. 2011; Londt, Jason, Londt, A. leg.; karoo scrub, rocky area near stream; NMSA-DIP-206510, NMSA • 1♀ Calvinia, 12 km S; 31°34'10"S, 019°43'56"E; 1080 m a.s.l.; 07 Sep. 2002; Londt, Jason leg.; sandy roadside; NMSA-DIP-84594, NMSA • 1♂ Fish River bridge, 23 km SE Middelpos; 32°01'25"S, 020°24'25"E; 1145 m a.s.l.; 18 Nov. 2008; Londt, Jason leg.; sandy riverine scrub area; NMSA-DIP-106779, NMSA • 1♀ Fish River bridge, 23 km SE Middelpos; 32°01'25"S, 020°24'25"E; 1145 m a.s.l.; 18 Nov. 2008; Londt, Jason leg.; sandy riverine scrub area; NMSA-DIP-106780, NMSA • 1♀ Klipfontein; 30°30'18"S, 017°49'57"E; 16 Nov. 1933; van Son, G. leg.; NMSA-DIP-051578, NMSA • 1♂ Klipfontein; 30°30'18"S, 017°49'57"E; 16 Nov. 1933; van Son, G. leg.; NMSA-DIP-89497, NMSA • 1♂ Klipfontein; 30°30'18"S, 017°49'57"E; 16 Nov. 1933; van Son, G. leg.; NMSA-DIP-89499, NMSA • 1♂ Klipfontein; 30°30'18"S, 017°49'57"E; 16 Nov. 1933; van Son, G. leg.; NMSA-DIP-89500, NMSA • 1♀ Klipfontein; 30°30'18"S, 017°49'57"E; 16 Nov. 1933; van Son, G. leg.; NMSA-DIP-89501, NMSA • 1♂ Klipfontein; 30°30'18"S, 017°49'57"E; 16 Nov. 1933; van Son, G. leg.; NMSA-DIP-89502, NMSA • 1♂ Klipfontein; 30°30'18"S, 017°49'57"E; 16 Nov. 1933; van Son, G. leg.; NMSA-DIP-89503, NMSA • 1♀ Klipfontein; 30°30'18"S, 017°49'57"E; 16 Nov. 1933; van Son, G. leg.; NMSA-DIP-89504, NMSA • 1♀ 1♂ Springbok; 29°40'00"S, 017°53'00"E; Nov. 1890; Lightfoot, R. leg.; SAM-DIP-A002162, SAMC • 1♂ Sutherland, 19 km S; 32°33'00"S,

020°34'00"E; 1100 m a.s.l.; 24 Nov. 1990; Whittington, Londt, Jason leg.; verlatekloof roadside; NMSA-DIP-051370, NMSA • 1♀ 1♂ Sutherland, 19 km S; 32°33'00"S, 020°34'00"E; 1100 m a.s.l.; 24 Nov. 1990; Whittington, Londt, Jason leg.; verlatekloof roadside; NMSA-DIP-89539, NMSA • 4♀ Tankwa Karoo, Waterval; 32°21'00"S, 020°10'48"E; Nov. 1952; SAM Museum Staff leg.; SAM-DIP-A002154, SAMC • 1♀ Tankwa Karoo, Waterval; 32°21'00"S, 020°10'48"E; Nov. 1952; SAM Museum Staff leg.; SAM-DIP-A002154, SAMC • 2♂ Thee Kloof (= Theekloof Pass, or Teekloofpas) Fraserburg; 32°12'19"S, 021°37'20"E; Nov. 1935; SAM Museum Staff leg.; SAM-DIP-A002159, SAMC • 1♀ Thee Kloof (= Theekloof Pass, or Teekloofpas) Fraserburg; 32°12'19"S, 021°37'20"E; Nov. 1935; SAM Museum Staff leg.; SAM-DIP-A002159, SAMC • 1♂ Visriver, 50 km E of Calvinia; 31°26'15"S, 020°16'48"E; 990 m a.s.l.; 10 Nov. 1998; Londt, Jason leg.; river edge vegetation; NMSA-DIP-90077, NMSA • 1♂ Williston, 8 km W; 31°20'48"S, 020°50'52"E; 1080 m a.s.l.; 10 Nov. 1998; Londt, Jason leg.; Karoo vegetation, at foot of rocky ridge; NMSA-DIP-90036, NMSA • 1♂ Williston, 8 km W; 31°20'48"S, 020°50'52"E; 1080 m a.s.l.; 10 Nov. 1998; Londt, Jason leg.; Karoo vegetation, at foot of rocky ridge; NMSA-DIP-90042, NMSA • 1♀ Williston, 8 km W; 31°20'48"S, 020°50'52"E; 1080 m a.s.l.; 10 Nov. 1998; Londt, Jason leg.; Karoo vegetation, at foot of rocky ridge; NMSA-DIP-90043, NMSA

SOUTH AFRICA – Western Cape • 1♂ 7 Weeks Poort (= Seven Weeks Poort); 33°24'02"S, 021°23'56"E; 17 Nov. 1940; van Son, G. leg.; NMSA-DIP-051556, NMSA • 1♂ Avontuur Cape Colony; 33°43'01"S, 023°09'56"E; Jan. 1920; Brauns, H. leg.; NMSA-DIP-054578, NMSA • 1♂ Beaufort W. Dist., Nieuwveld; 32°21'00"S, 022°35'00"E; Nov. 1935; SAM Museum Staff leg.; SAM-DIP-A002136, SAMC • 1♂ Beaufort W. Dist., Nieuwveld; 32°21'00"S, 022°35'00"E; Nov. 1935; SAM Museum Staff leg.; SAM-DIP-A002136, SAMC • 1♂ Between Calitzdorp and Schoemans Poort (= Schoemanspoort); 33°06'33"S, 22°03'18"E; Oct. 1938; SAM Museum Staff leg.; SAM-DIP-A002165, SAMC • 1♂ Buffel's River, between Laingsburg and 7. wks. Poort (= seven weeks poort); 33°21'31"S, 20°57'19"E; Oct. 1937; leg.; SAM-DIP-A002139, SAMC • 1♂ Dwyka river N1; 33°05'07"S, 021°34'46"E; 455 m a.s.l.; 13 Oct. 2013; Londt, Jason, Londt, A. leg.; Rocky river-bed with stagnant pools; NMSA-DIP-106776, NMSA • 1♂ Knersvlakte, North of Van Rhynsdorp; 31°15'00"S, 018°45'00"E; 06–09 Oct. 1964; Stuckenberg, Brian leg.; NMSA-DIP-89535, NMSA • 1♀ Knersvlakte, North of Van Rhynsdorp; 31°15'00"S, 018°45'00"E; 06–09 Oct. 1964; Stuckenberg, Brian leg.; NMSA-DIP-89538, NMSA • 1♂ Knersvlakte, North of Van Rhynsdorp; 31°15'00"S, 018°45'00"E; 06–09 Oct. 1964; Stuckenberg, Brian leg.; NMSA-DIP-89540, NMSA • 1♀ Knersvlakte, North of Van Rhynsdorp, SW cape; 31°15'00"S, 018°45'00"E; 06–09 Oct. 1964; Stuckenberg, Brian, Stuckenberg, A. leg.; NMSA-DIP-048069, NMSA • 1♂ Knersvlakte, North of Van Rhynsdorp, SW cape; 31°15'00"S, 018°45'00"E; 06–09 Oct. 1964; Stuckenberg, Brian, Stuckenberg, A. leg.; NMSA-DIP-89510, NMSA • 1♀ Knersvlakte, North of Van Rhynsdorp, SW cape; 31°15'00"S, 018°45'00"E; 06–09 Oct. 1964; Stuckenberg, Brian, Stuckenberg, A. leg.; NMSA-DIP-89511, NMSA • 1♂ Knersvlakte, North of Van Rhynsdorp, SW cape; 31°15'00"S, 018°45'00"E; 06–09 Oct. 1964; Stuckenberg, Brian, Stuckenberg, A. leg.; NMSA-DIP-89512, NMSA • 1♂ Knersvlakte, North of Van Rhynsdorp, SW cape; 31°15'00"S, 018°45'00"E; 06–09 Oct. 1964; Stuckenberg, Brian, Stuckenberg, A. leg.; NMSA-DIP-89533, NMSA • 1♂ Knersvlakte, North of Van Rhynsdorp, SW cape; 31°15'00"S, 018°45'00"E; 06–09 Oct. 1964; Stuckenberg, Brian, Stuckenberg, A. leg.; NMSA-DIP-89534, NMSA • 1♂ Knersvlakte, North of Van Rhynsdorp, SW cape; 31°15'00"S, 018°45'00"E; 06–09 Oct. 1964; Stucken-

berg, Brian, Stuckenberg, A. leg.; NMSA-DIP-89536, NMSA • 1♂ Knersvlakte, North of Van Rhynsdorp, SW cape; 31°15'00"S, 018°45'00"E; 06–09 Oct. 1964; Stuckenberg, Brian, Stuckenberg, A. leg.; NMSA-DIP-89537, NMSA • 1♂ Laingsburg, 5 km S; 33°14'00"S, 020°52'00"E; 700 m a.s.l.; 25 Nov. 1990; Londt, Jason leg.; Banks Buffels River; NMSA-DIP-051274, NMSA • 1♂ Laingsburg, 70 km W; 33°16'33"S, 020°07'25"E; 900 m a.s.l.; 07 Nov. 1998; Londt, Jason leg.; Macchia vegetation; NMSA-DIP-90031, NMSA • 1♂ Laingsburg, 70 km W; 33°16'33"S, 020°07'25"E; 900 m a.s.l.; 07 Nov. 1998; Londt, Jason leg.; Macchia vegetation; NMSA-DIP-90032, NMSA • 1♂ Louw's River; 34°17'28"S, 018°54'45"E; Oct. 1937; Radismith, Beliv, Montagu leg.; SAM-DIP-A002138, SAMC • 1♀ Montagu; 33°46'02"S, 020°07'40"E; Oct. 1919; leg.; NMSA-DIP-002164, SAMC • 1♂ Montagu; 33°46'02"S, 020°07'40"E; Nov. 1919; Lightfoot, R. leg.; SAM-DIP-A002160, SAMC • 1♂ Montagu; 33°46'02"S, 020°07'40"E; Nov. 1919; Lightfoot, R. leg.; SAM-DIP-A002160, SAMC • 1♀ Montagu; 33°46'02"S, 020°07'40"E; Nov. 1919; Lightfoot, R. leg.; SAM-DIP-A002160, SAMC • 1♀ Montagu; 33°46'02"S, 020°07'40"E; Nov. 1919; Lightfoot, R. leg.; SAM-DIP-A002160, SAMC • 1♀ Montagu; 33°46'02"S, 020°07'40"E; Nov. 1919; Lightfoot, R. leg.; SAM-DIP-A002160, SAMC • 1♂ Montagu Nature Garden; 33°47'33"S, 020°07'51"E; 240 m a.s.l.; 19 Oct. 2005; Londt, Jason leg.; Succulent Karoo garden on hot N slope; NMSA-DIP-93037, NMSA • 1♂ Montagu Nature Garden; 33°47'33"S, 020°07'51"E; 240 m a.s.l.; 19 Oct. 2005; Londt, Jason leg.; Succulent Karoo garden on hot N slope; NMSA-DIP-93039, NMSA • 1♂ Montagu Nature Garden; 33°47'33"S, 020°07'51"E; 240 m a.s.l.; 19 Oct. 2005; Londt, Jason leg.; Succulent Karoo garden on hot N slope; NMSA-DIP-93041, NMSA • 1♂ Ouberg Pass, SE of Touws R.; 33°41'01"S, 020°15'15"E; Dec. 1962; SAM Museum Staff leg.; SAM-DIP-A016112, SAMC • 1♂ Ouberg Pass, SE of Touws R.; 33°41'01"S, 020°15'15"E; Dec. 1962; SAM Museum Staff leg.; SAM-DIP-A016113, SAMC • 1♂ Schoemans Poort (= Shoemanspoort); 33°26'28"S, 022°15'04"E; 1938; SAM Museum Staff leg.; NMSA-DIP-002166, SAMC • 1♀ Touws Rivier to Hondewater, 18 miles E; 33°28'60"S, 020°19'01"E; Dec. 1962; SAM Museum Staff leg.; SAM-DIP-A002153, SAMC • 1♂ Touws Rivier to Hondewater, 18 miles E; 33°28'60"S, 020°19'01"E; Dec. 1962; SAM Museum Staff leg.; SAM-DIP-A016111, SAMC • 1♂ Touws Rivier to Hondewater, 18 miles E; 33°28'60"S, 020°19'01"E; Dec. 1962; SAM Museum Staff leg.; SAM-DIP-A016209, SAMC • 1♂ Touws Rivier to Hondewater, 18 miles E; 33°28'60"S, 020°19'01"E; Dec. 1962; SAM Museum Staff leg.; SAM-DIP-A016210, SAMC • 1♀ Touws Rivier to Hondewater, 18 miles E; 33°28'60"S, 020°19'01"E; Dec. 1962; SAM Museum Staff leg.; SAM-DIP-A016211, SAMC • 1♂ Touws Rivier to Hondewater, 18 miles E; 33°28'60"S, 020°19'01"E; Dec. 1962; SAM Museum Staff leg.; SAM-DIP-A016212, SAMC • 1♂ Worcester, Karoo Botanic Garden; 33°37'00"S, 019°27'00"E; 420 m a.s.l.; 27 Sep. 1993; Londt, Jason leg.; macchia; NMSA-DIP-95283, NMSA • 1♂ Worcester, Karoo Botanic Garden; 33°37'00"S, 019°27'00"E; 420 m a.s.l.; 27 Sep. 1993; Londt, Jason leg.; macchia; NMSA-DIP-95284, NMSA.

Distribution, biodiversity hotspots, phenology, and biology. Known from localities in the Northern Cape, Western Cape, and Eastern Cape of South Africa (Fig. 7). This species is widely found and known from 76 specimens, collected in 27 collecting events spread between 1890–2013. The species is known to occur in the Succulent Karoo and Cape Floristic Region biodiversity hotspots. Adult flies are active from September - January (Table 2). Adult flies are presumed pollinators, as other species in the genus have been observed visiting flowers (<https://www.inaturalist.org/observations/64518819>). Larvae are unknown but presumed parasitoids as other Bombyliidae, hosts are unknown (Yeates and Greathead 1997).

Remarks. Hesse (1975) mentioned that some darker specimens of *E. eremophila* were observed, some of these also have a black T1.

***Enica henicoides* (Hesse, 1956), comb. nov.**

Fig. 8

Taxon depository. ZooBank: <https://zoobank.org/3BE08163-D9C1-4B57-B5E6-9B0B0ECC9313>.

Diagnosis. The species is distinguished from other species in the genus by the dorsal occiput with whitish yellow setae and small ovoid black spots in females. In males it is distinguished by the combination of a dorsal occiput without markings and a dark brown setose haltere stem.

Description. Head: wider than high, creamy white; males holoptic, females dichoptic, vertex and compound eyes at same level; frons (at level of antennal insertion) more or less parallel-sided, female: light brown to reddish-orange, darker than head, without dark spot, males: similar to head, slightly darker than head; frons black setose, with white scales, males no setation near eyes, females setose near eyes only dorsally, past half-way point setose only medially; ocellar tubercle slightly raised, dark reddish brown to black, black macrosetose, white or light brown scales posteriorly; occiput whitish-yellow setose, brown setose on occiput spots, white scales antero-dorsally, females: antero-dorsally with dark brown to black spots, usually oval males: antero-dorsally without markings; gena creamy white, extremely sparsely setose.

Proboscis and maxillary palpus: proboscis straight, black; labella only forming distal tip of proboscis, apically rounded, minute black setose; maxillary palpus not extending beyond oral cavity, black, light yellowish-brown setose.

Antenna: dark brown; scape creamy white, approximately as long as pedicel, black setose dorsally and ventrally, setae extending to tip of pedicel; pedicel creamy white, short black setose dorsally; postpedicel dark brown, tapering distally, longer than scape and pedicel combined, sparsely white scales and dark setose dorsally; stylus reduced, only apical 'seta-like' sensory element present, situated sub-apically in cavity on postpedicel.

Thorax: light orangish brown; scutum predominantly black, reddish on margins, light to dark brown scales, two submedial longitudinal stripes with lighter scales; setation: acr setae present, black, dc setae present, black; prosternum silvery grey pubescence; proepisternum silvery grey pubescence, long yellowish-white setose, white scales; anteprenotum silvery grey pubescence, dull white scales anteriorly; postpronotum silvery grey pubescence, asetose, with medial dark brown to black stripe; white scales, white and black setose; pleuron silvery grey pubescence; proepimeron silvery grey pubescence, asetose; anepisternum silvery grey pubescence, white scales ventrally, black macrosetose dorsally; anepimeron silvery grey pubescence, asetose; katepisternum silvery grey pubescence, white scales dorsally; laterotergite silvery grey pubescence, asetose; meron + metepisternum silvery grey pubescence, white scales dorsally; metepimeron silvery grey pubescence, asetose; scutellum red, anterior black spot, apubescent, ds sctl setae black macrosetose, ap sctl setae comprised of yellowish-white scales.

Leg: light orangish brown, covered in scales, some regular setae present; procoxa light orangish brown, silvery grey pubescence, white scales, thin white se-

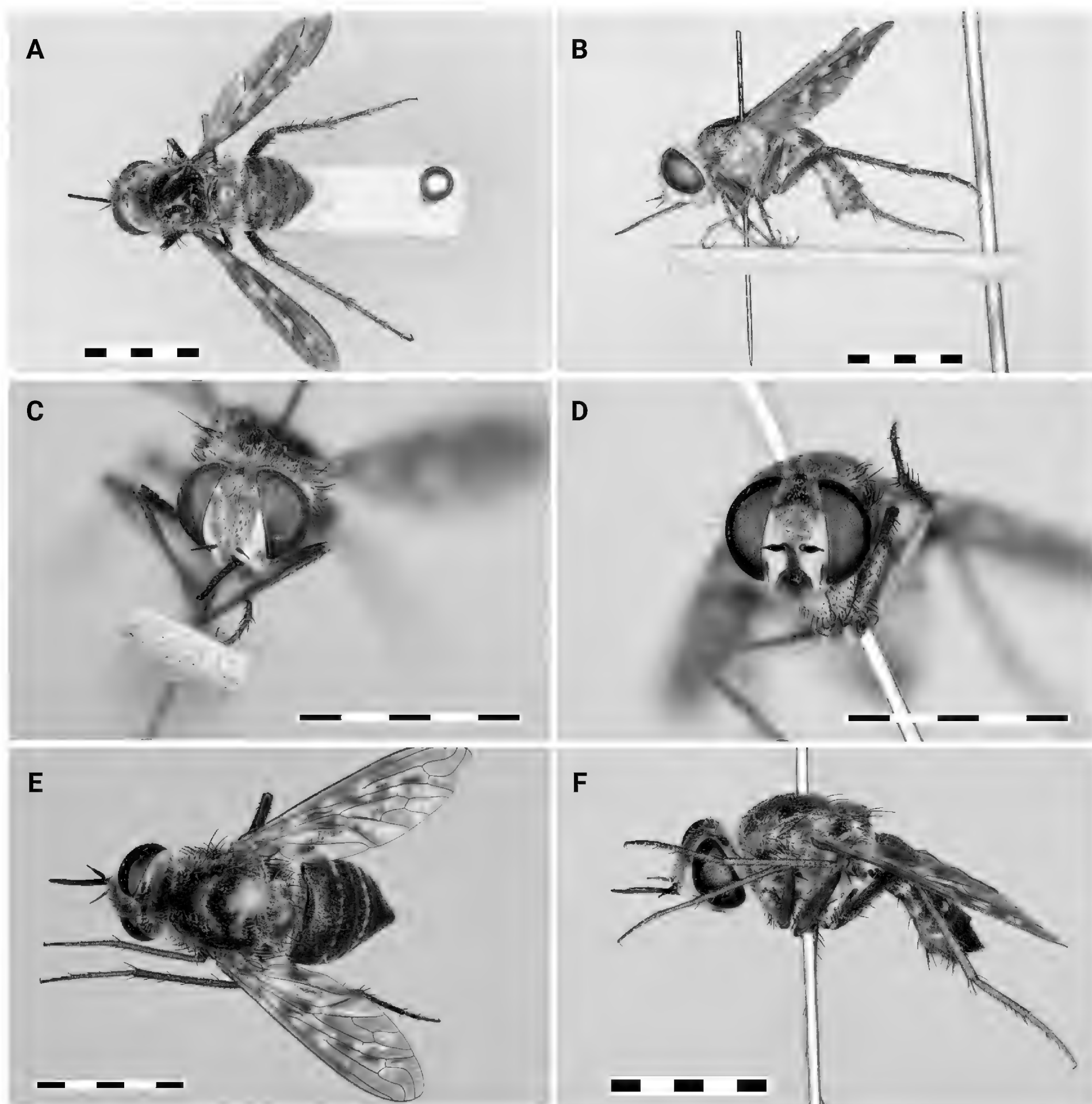


Figure 8. *Enica henicoides* ♀ SAM-DIP-A002170 (**A–C**) **A** habitus, dorsal view **B** habitus, lateral view **C** habitus, frontal view; *Enica imitata* ♀ NMSA-DIP-90027 (**D–F**) **D** habitus, frontal view **E** habitus, dorsal view **F** habitus, lateral view. Scale bars: 5 mm.

tose, thick black setose; pro femur light orangish brown, white scales ventrally, brown scales dorsally, few short black setae; pro tibia light brown, raised short and fine dark brown setose ventrally, large black setose dorsally; mes coxa light orangish brown, white pubescence, white scales, thick black setose; mes femur light orangish brown, white scales ventrally, brown scales dorsally, few short black setae; mes tibia light brown, dark brown scales, long black setose, distal tip with long black setae; met coxa light orangish brown, white pubescent, white scales, thin white setose, thick black setose, anteriorly without any protuberance; met trochanter short black setose ventrally, white scales dorsally, without protuberance; met femur light orangish brown, white scales ventrally, brown scales dorsally, few short black setae; met tibia light brown, dark brown

scales, large black setose, distal tip with long black macrosetae of varying sizes; proximal pro, mes, and met tarsomeres longer than following 2 tarsomeres combined, proximal met tarsomere as wide as following tarsomeres; pro tarsomere with dark brown scales dorsally, black setose ventrally; mes tarsomere with dark brown scales dorsally, black setose ventrally; met tarsomere with dark brown scales dorsally, black setose ventrally; claw smoothly arched distally.

Wing: 8.9–9.0 mm, microtrichia absent; membrane color pattern males: as females but less darkly infuscated, females: darkly infuscated except for white tinted base of wing, r-r, r-m, base of r_{2+3} , base of m_2 , m-cu, split between M_1+2 and M_3 ; costal vein dark brown short setose, whitish clear setose proximally; R_{2+3} distally distinctly arching anteriorly, r_1 open; R_4 terminating anterior to wing apex, distinctly arching anteriorly; cell r_4 open, proximally R_4 and R_5 parallel, R_4 strongly diverging anteriorly in distal $2/3$; R_5 terminating posterior to wing apex; r_5 open; M_1 terminating posterior to wing apex; cell d closed by base of M_2 and m-m, r-m situated in distal $1/4$; m_3 open; cua open; alula greatly reduced, nearly straight wing margin; haltere stem dark brown setose.

Abdomen: shape ovate, predominantly black anteriorly and red posteriorly; tergites smooth, setae with small sockets only; T1 predominantly reddish-orange, some black or reddish yellow to light brown, light yellowish-brown to light whitish-brown setose, with scales; T2–T7 predominantly reddish-orange, thin black setose, brown to light yellowish-brown scales, lighter scales on posterior margins of some tergites; S1–8 predominantly light reddish-orange, yellow to white scales, thin black setose and long white setose; lateral margin black setae remaining close to abdomen, male T8 white scales, black setose.

Terminalia: Male terminalia drawings in Hesse (1956, p41): <https://www.biodiversitylibrary.org/page/40844180>.

Material examined. Holotype. SOUTH AFRICA – Western Cape • 1♂ Ceres; 33°22'11.6"S, 19°18'42.7"E; Nov. 1920; Turner, R. E. leg.; NHMUK015136073, NHMUK.

Paratypes. SOUTH AFRICA – Northern Cape • 1♀ Nieuwoudtville; 31°23'00"S, 019°06'00"E; Nov. 1931; Cockerell, D. A. leg.; SAM-DIP-A002171, SAMC • 1♀ Nieuwoudtville; 31°23'00"S, 019°06'00"E; 18-22 Nov. 1931; Mackie, A. leg.; NHMUK015136071, NHMUK.

SOUTH AFRICA – Western Cape • 1♀ Bulhoek (= Bulshoek), Klaver - Clanw. (= Klawer -Clanwilliam); 32°02'52"S, 018°49'28"E; Oct. 1950; SAM Museum Staff leg.; SAM-DIP-A002170, SAMC • 1♀ Bulhoek (= Bulshoek), Klaver - Clanw. (= Klawer -Clanwilliam); 32°02'52"S, 018°49'28"E; Oct. 1950; SAM Museum Staff leg.; SAM-DIP-A002170, SAMC • 1♂ Franschoek (= French Hoek), 40 mi from Cape Town; 33°54'24.4"S, 19°07'19.0"E; 11 Dec. 1930; Simmons, H. W. leg.; NHMUK015136072, NHMUK.

Distribution, biodiversity hotspots, phenology, and biology. Known from localities in the Northern Cape and Western Cape of South Africa (Fig. 9). This species is only known from 6 specimens, collected in 4 collecting events spread between 1920–1950. The species is known to occur in the Succulent Karoo biodiversity hotspots. Adult flies are active from October – December (Table 2). Adult flies are presumed pollinators, as other species in the genus have been observed visiting flowers (<https://www.inaturalist.org/observations/64518819>). Larvae are unknown but presumed parasitoids as other Bombyliidae, hosts are unknown (Yeates and Greathead 1997).

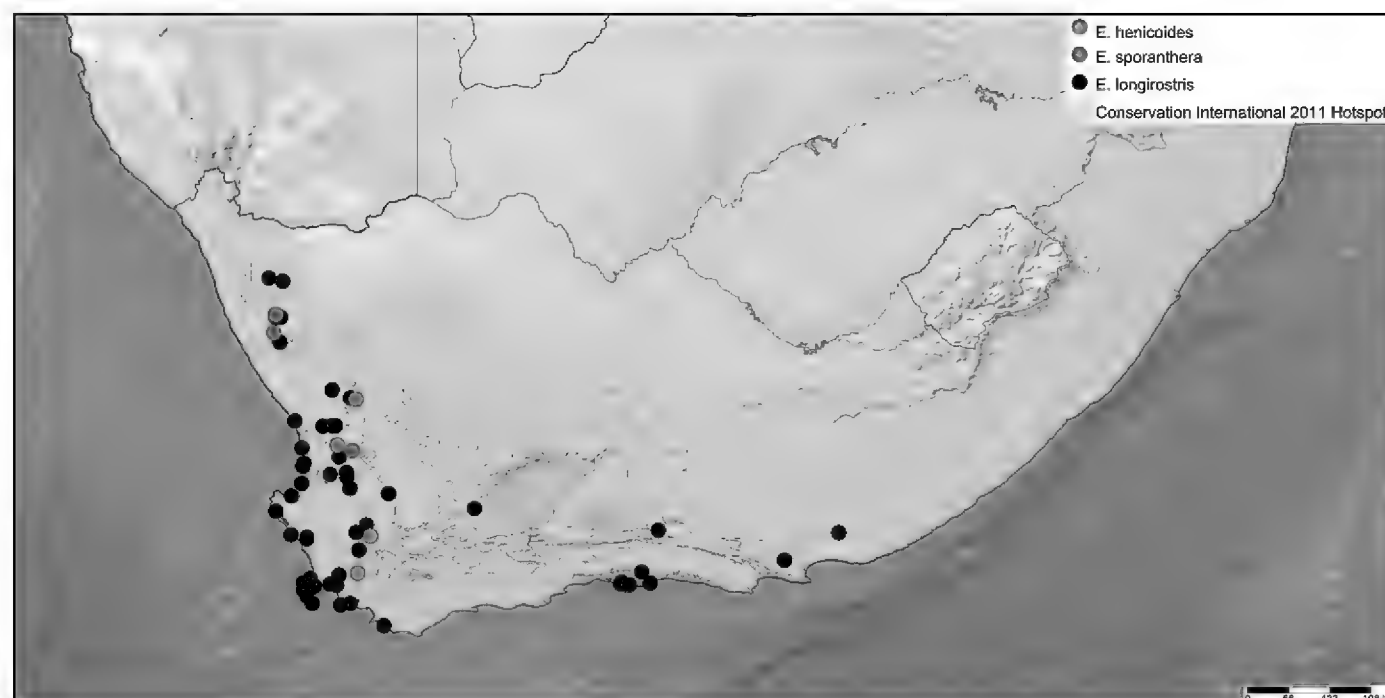


Figure 9. Map of southern Africa with elevational relief and biodiversity hotspots (sensu Conservation International in grey) and distribution of *E. longirostris*, *E. henicoides* and *E. sporanthera* specimens studied.

***Enica imitata* (Hesse, 1956), comb. nov.**

Fig. 8

Taxon depository. ZooBank: <https://zoobank.org/B9E4599C-A9B0-4162-AB1D-8E79EF2D72B8>.

Diagnosis. The species is distinguished from other species in the genus by the white scales present on the occiput, additionally two dark elongated spots can be seen on the dorsal margin of the occiput. Metathoracic femur has white scales ventrally and brown scales dorsally.

Description. Head: wider than high, creamy white; males holoptic, females dichoptic, vertex and compound eyes at same level; frons (at level of antennal insertion) more or less parallel-sided, female: light brown to reddish-orange, darker than head, with dark brown to black triangular spot extending to eyes, males: similar to head, slightly darker than head; frons black setose, with white scales, males no setation near eyes, females setose near eyes only dorsally; ocellar tubercle slightly raised, dark reddish brown to black, black macrosetose, white or light brown scales posteriorly; occiput whitish–yellow setose, brown setose on occiput spots, white scales antero-dorsally, dorsal eye margin with dark brown to black spots present, touching or almost touching eye margin, never extending ventrally past level of antennae; gena creamy white, extremely sparsely setose.

Proboscis and maxillary palpus: proboscis straight, black; labella only forming distal tip of proboscis, apically rounded, minute black setose; maxillary palpus not extending beyond oral cavity, light brown to brown, brown setose.

Antenna: dark brown; scape creamy white, approximately as long as pedicel, black setose dorsally and ventrally, setae extending to tip of pedicel; pedicel reddish brown or dark brown, short black setose dorsally; postpedicel dark brown, tapering distally, longer than scape and pedicel combined, white or light yellow scales dorsally; stylus reduced, only apical ‘seta-like’ sensory element present, situated sub–apically in cavity on postpedicel.

Thorax: reddish brown and light orangish brown; scutum predominantly black, reddish on margins, grey to brown scales centrally and white scales peripherally, with white scales in two short anterior stripes sub–medially;

setation: acr setae present, black, dc setae present, black; prosternum silvery grey pubescence; proepisternum silvery grey pubescence, long yellowish-white setose, white scales; antepnotum silvery grey pubescence, dull white scales anteriorly; postpronotum silvery grey pubescence, asetose, with medial dark brown to black stripe; postpronotal lobe silvery grey pubescence, white scales, white and black setose; pleuron silvery grey pubescence; proepimeron silvery grey pubescence, asetose; anepisternum silvery grey pubescence, white scales ventrally, black macrosetose dorsally; anepimeron silvery grey pubescence, asetose; katepisternum silvery grey pubescence, white scales dorsally; laterotergite silvery grey pubescence, asetose; meron + metepisternum silvery grey pubescence, white scales dorsally; metepimeron silvery grey pubescence, asetose; scutellum red, anterior black spot, apubescent, ds sctl setae black macrosetose, ap sctl setae comprised of light brown and white scales, black setose or white scales, black setose.

Leg: dark brown, covered in scales, some regular setae present; pro coxa dark reddish brown, silvery grey pubescence, white scales, thick black setose; pro femur dark brown, white scales ventrally, brown scales dorsally, few short black setae; pro tibia light brown, raised short and fine dark brown setose ventrally, large black setose dorsally; mes coxa dark reddish brown, white pubescence, white scales, thick black setose; mes femur dark brown, white scales ventrally, brown scales dorsally, few short black setae; mes tibia light brown, dark brown scales, long black setose, distal tip with long black setae; met coxa dark reddish brown, white pubescent, white scales, thin white setose, thick black setose, anteriorly without any protuberance; met trochanter short black setose ventrally, white scales dorsally, without protuberance; met femur dark brown, white scales ventrally, brown scales dorsally, few short black setae; met tibia light brown, dark brown scales, large black setose, distal tip with long black macrosetae of varying sizes; proximal pro, mes, and met tarsomeres longer than following 2 tarsomeres combined, proximal met tarsomere as wide as following tarsomeres; pro tarsomere with dark brown scales dorsally, black setose ventrally; mes tarsomere with dark brown scales dorsally, black setose ventrally; met tarsomere with dark brown scales dorsally, black setose ventrally; claw smoothly arched distally.

Wing: 7.8–9.0 mm, microtrichia absent; membrane color pattern males: slightly infuscated except for white tinted base of wing, r-r, r-m, base of r_{2+3} , base of m_2 , m-cu, split between M_1+2 and M_3 , middle of br and basal portion of r_1 , females: darkly infuscated except for white tinted base of wing, r-r, r-m, base of r_{2+3} , base of m_2 , m-cu, split between M_1+2 and M_3 ; costal vein dark brown short setose, whitish clear setose proximally; R_{2+3} distally distinctly arching anteriorly, r_1 open; R_4 terminating anterior to wing apex, distinctly arching anteriorly; cell r_4 open, proximally R_4 and R_5 parallel, R_4 strongly diverging anteriorly in distal $2/3$; R_5 terminating posterior to wing apex; r_5 open; M_1 terminating posterior to wing apex; cell d closed by base of M_2 and m-m, r-m situated in distal $1/4$; m_3 open; cua open; alula greatly reduced, nearly straight wing margin; haltere stem dark brown setose.

Abdomen: shape ovate, black; tergites smooth, setae with small sockets only; T1 predominantly black, no red or a very thin line of red posteriorly, snow-white setose, with scales; T2–T7 predominantly black, light brown setose, white scales, white scales on spots on posterior margins of T2 and T4, single spot medially on T2; S1–8 predominantly black with reddish brown, dense snow-

white scales, thin black setose and long white setose; lateral margin black setae remaining close to abdomen, male T8 white scales, black setose.

Terminalia: gonocoxites longer than wide, broader at base, convex basally with straight apical third, fused almost completely with phallus, with short, fine hairs apically; gonostylus with sharp projection; phallus inflated and helmet-like at base, apically separating from gonocoxite, slightly curving back towards gonocoxite; lateral aedeagal apodeme round, extending laterally; ejaculatory apodeme long, rounded in lateral view, extending significantly past anterior margin of the gonocoxites, ending under lateral strut. (Fig. 4A, C)

Material examined. Holotype. SOUTH AFRICA – Western Cape • 1♂ Moordenaars Karoo Lammerfontein; 32°58'02"S, 020°48'56"E; Oct. 1952; SAM Museum Staff leg.; SAM-DIP-A002172, SAMC

Paratype. SOUTH AFRICA – Western Cape • 1♂ Moordenaars Karoo Lammerfontein; 32°58'02"S, 020°48'56"E; Oct. 1952; SAM Museum Staff leg.; SAM-DIP-A002172, SAMC

Other material. SOUTH AFRICA – Northern Cape • 1♀ Calvinia, 12 km S; 31°34'10"S, 019°43'56"E; 1080 m a.s.l.; 07 Sep. 2002; Londt, Jason leg.; sandy roadside; NMSA-DIP-84590, NMSA • 1♂ Sutherland, 18 km N, Renoster River Area; 32°15'10"S, 020°41'39"E; 1290 m a.s.l.; 07 Nov. 1998; Londt, Jason leg.; Karoo Macchia; NMSA-DIP-90025, NMSA • 1♀ Sutherland, 18 km N, Renoster River Area; 32°15'10"S, 020°41'39"E; 1290 m a.s.l.; 07 Nov. 1998; Londt, Jason leg.; Karoo Macchia; NMSA-DIP-90027, NMSA.

Distribution, biodiversity hotspots, phenology, and biology. Known from localities in the Northern Cape and Western Cape of South Africa (Fig. 5). This species is known from 5 specimens, collected in 3 collecting events spread between 1952–2002. The species is known to occur in the Succulent Karoo and the Cape Floristic Region biodiversity hotspots. Adult flies are active from September - November (Table 2). Adult flies are presumed pollinators, as other species in the genus have been observed visiting flowers (<https://www.inaturalist.org/observations/64518819>). Larvae are unknown but presumed parasitoids as other Bombyliidae, hosts are unknown (Yeates and Greathead 1997).

***Enica longirostris* (Wiedemann, 1819)**

Fig. 10

Anthrax longirostris Wiedemann, 1819: 11.

Cyllenina afra Wiedemann, 1828: 358.

Cyllenina pluricellata Macquart, 1855: 104.

Taxon depository. ZooBank: <https://zoobank.org/b4e3556d-a8d8-4dd0-924b-7b7f8689dab2>.

Diagnosis. The species is distinguished from other species in the genus by the two crossveins connecting R_1 and R_{2+3} and by densely setose gena.

Description. Head: wider than high, creamy white; males holoptic, females dichoptic, vertex and compound eyes at same level; frons (at level of antennal insertion) more or less parallel-sided, female: light brown to reddish-orange, darker than head, without dark spot, males: similar to head, slightly darker than head; frons black setose, with white scales, broadly setose near eyes, extending ventral to

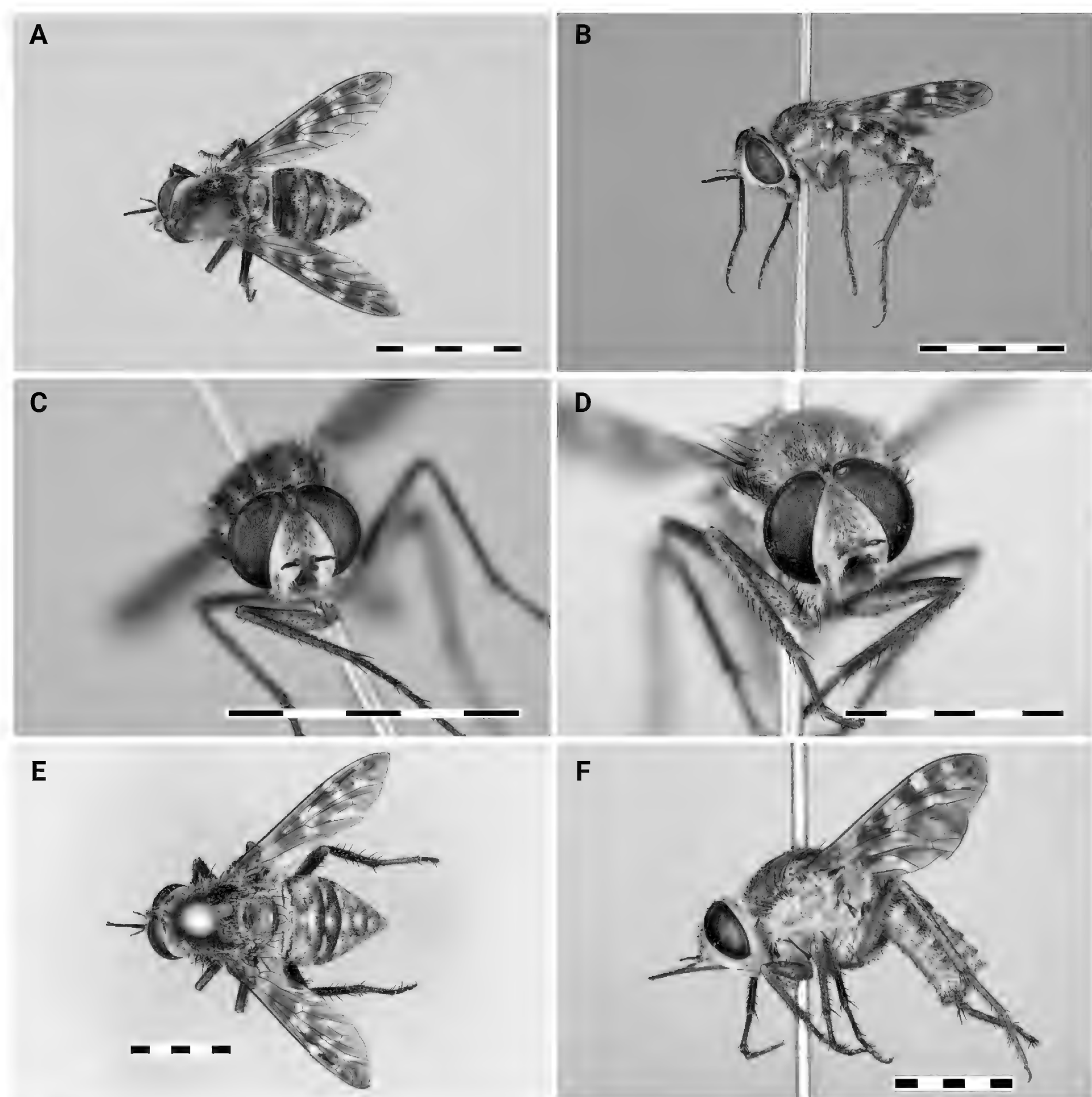


Figure 10. *Enica longirostris* ♂ USNMENT01115157 (**A–C**) **A** habitus, dorsal view **B** habitus, lateral view **C** habitus, frontal view; *Enica longirostris* ♂ SAM-DIP-A016213 ♂ (**D–F**) **D** habitus, frontal view **E** habitus, dorsal view **F** habitus, lateral view. Scale bars: 5 mm.

antennae; ocellar tubercle slightly raised, dark reddish brown to black, black macrosetose, white or light brown scales posteriorly; occiput whitish–yellow setose, brown setose on occiput spots, white scales antero-dorsally, antero-dorsally with dark brown to black spots, usually oval; gena creamy white, densely white setose.

Proboscis and maxillary palpus: proboscis straight, black; labella only forming distal tip of proboscis, apically rounded, minute black setose; maxillary palpus not extending beyond oral cavity, light brown to brown, brown setose or light yellowish-brown setose.

Antenna: dark brown; scape creamy white, approximately as long as pedicel, variable setation color: black setose, white setose, or white scales may be present, setae extending to tip of pedicel; pedicel reddish brown or brown, short

black setose dorsally; postpedicel black or dark brown, tapering distally, longer than scape and pedicel combined, white or light yellow scales dorsally; stylus reduced, only apical 'seta-like' sensory element present, situated sub-apically in cavity on postpedicel.

Thorax: light orangish brown or reddish brown and light orangish brown; scutum predominantly black, reddish on margins, light to dark brown scales, two sub-medial longitudinal stripes with lighter scales; setation: acr setae present, black, dc setae present, black; prosternum silvery grey pubescence; proepisternum silvery grey pubescence, long yellowish-white setose, white scales; antepnotum silvery grey pubescence, dull white scales anteriorly; postpronotum silvery grey pubescence, asetose, with medial dark brown to black stripe; postpronotal lobe silvery grey pubescence, white scales, white and black setose; pleuron silvery grey pubescence; proepimeron silvery grey pubescence, asetose; anepisternum silvery grey pubescence, white scales ventrally, black macrosetose dorsally; anepimeron silvery grey pubescence, asetose or white scales; katepisternum silvery grey pubescence, white scales dorsally; laterotergite silvery grey pubescence, asetose; meron + metepisternum silvery grey pubescence, asetose or white scales dorsally; metepimeron silvery grey pubescence, asetose or white setose dorsally; scutellum red, sometimes with anterior or posterior black spots, apubescent, ds sctl setae black macrosetose, ap sctl setae comprised of light brown and white scales.

Leg: light orangish brown, covered in scales, some regular setae present; pro coxa light orangish brown, silvery grey pubescence, white scales, thick black setose; pro femur light orangish brown, white scales ventrally, brown scales dorsally, few short black setae; pro tibia light brown, raised short and fine dark brown setose ventrally, large black setose dorsally; mes coxa light orangish brown, white pubescence, white scales, thick black setose; mes femur light orangish brown, white scales ventrally, brown scales dorsally, few short black setae; mes tibia light brown, dark brown scales, long black setose, distal tip with long black setae; met coxa light orangish brown, white pubescent, white scales, thick black setose, anteriorly without any protuberance; met trochanter short black setose ventrally, white scales dorsally, without protuberance; met femur light orangish brown, white scales ventrally, brown scales dorsally, few short black setae; met tibia light brown, dark brown scales, large black setose, distal tip with long black macrosetae of varying sizes; proximal pro, mes, and met tarsomeres longer than following 2 tarsomeres combined, proximal met tarsomere as wide as following tarsomeres; pro tarsomere with dark brown scales dorsally, black setose ventrally; mes tarsomere with dark brown scales dorsally, black setose ventrally; met tarsomere with dark brown scales dorsally, black setose ventrally; claw smoothly arched distally.

Wing: (6.1–)9.1–9.8(–11.4) mm, microtrichia absent; membrane color pattern males: predominantly brown colored except for white tinted base of wing, supernumerary crossveins between R_1 and $R_{2+3'}$, oblique rectangular area between CuA and R_1 , crossveins r-r and r-m, and base of cell m_2 , females: membrane dark brown colored except for white tinted base of wing, supernumerary crossveins between R_1 and $R_{2+3'}$, oblique rectangular area between CuA and R_1 , crossveins r-r and r-m, and base of cell m_2 ; costal vein dark brown short setose, whitish clear setose proximally; R_{2+3} distally distinctly arching anteriorly, r_1 open, divided by 2 supernumerary crossveins; R_4 terminating anterior to wing apex, distinctly arching anteriorly; cell r_4 open, proximally R_4 and R_5 parallel, R_4 strongly diverging anteriorly in distal $2/3$; R_5 terminating posterior to wing apex; r_5 open; M_1 terminating posterior to wing apex;

cell d closed by base of M_2 and m-m, r-m situated in distal $\frac{1}{4}$; m_3 open; cua open; alula greatly reduced, nearly straight wing margin; haltere stem dark brown setose.

Abdomen: shape ovate, black, predominantly black anteriorly and red posteriorly or reddish brown; tergites smooth, setae with small sockets only; T1 reddish yellow to light brown, reddish brown, or predominantly black, no red or a very thin line of red posteriorly, light yellowish-brown to light whitish brown setose, scales or snow-white setose, with scales; T2–T7 predominantly reddish-orange or predominantly black or predominantly dark reddish brown, light brown setose, white scales, rarely brown to light yellowish-brown setose, white scales or dark brown setose, white scales, white scales on medial spots on T2–8 and posterior margins of T2 and T4, rarely scales uniformly color throughout or light brown setose, 2 spots with dark scales on T2 and T3; S1–8 predominantly black with reddish brown, yellow to white scales, thin black setose and long white setose or brown scales, thin black setose and long white setose; lateral margin lacking setae, rarely sparse black setae on T4–8, male T8 white scales, black setose.

Terminalia: Male terminalia drawings in Hesse (1956, p32): <https://www.biodiversitylibrary.org/page/40844167>.

Other material. SOUTH AFRICA – Eastern Cape • 1♀ Alicedale, 2 km E; 33°19'07"S, 026°06'12"E; 310 m a.s.l.; 23 Oct. 2004; Londt, Jason leg.; Dry rocky hillside with succulent vegetation; NMSA-DIP-93654, NMSA • 1♂ Alicedale, 2 km E; 33°19'07"S, 026°06'12"E; 310 m a.s.l.; 23 Oct. 2004; Londt, Jason leg.; Dry rocky hillside with succulent vegetation; NMSA-DIP-93655, NMSA • 1♀ Alicedale, 2 km E; 33°19'07"S, 026°06'12"E; 310 m a.s.l.; 23 Oct. 2004; Londt, Jason leg.; Dry rocky hillside with succulent vegetation; NMSA-DIP-93656, NMSA • 1♀ 3♂ 1? Groendal, Uitenhage (= kariega); 33°43'13"S, 025°18'55"E; 28 Oct. 1938; SAM Museum Staff leg.; SAM-DIP-A002141, SAMC • 1♀ Willowmore; 33°17'00"S, 023°29'00"E; 25 Oct. 1918; Brauns, H. leg.; NMSA-DIP-054408, NMSA • 1♀ Willowmore; 33°17'00"S, 023°29'00"E; 01 Nov. 1919; Brauns, H. leg.; NMSA-DIP-054687, NMSA • 1♀ Willowmore; 33°17'00"S, 023°29'00"E; 01 Nov. 1919; Brauns, H. leg.; NMSA-DIP-89485, NMSA • 1♂ Willowmore; 33°17'00"S, 023°29'00"E; 15 Oct. 1921; Brauns, H. leg.; NMSA-DIP-056255, NMSA • 1♂ Willowmore; 33°17'00"S, 023°29'00"E; 15 Oct. 1921; Brauns, H. leg.; NMSA-DIP-89530, NMSA • 1♀ Willowmore; 33°17'00"S, 023°29'00"E; Dec. 1922; Brauns, H. leg.; NMSA-DIP-89522, NMSA • 1♂ Willowmore; 33°17'00"S, 023°29'00"E; Dec. 1922; Brauns, H. leg.; NMSA-DIP-89523, NMSA

SOUTH AFRICA – Northern Cape • 1♀ Bowesdorp (= Bowes Dorp), Namaqualand; 30°09'03"S, 017°55'55"E; Nov. 1931; SAM Museum Staff leg.; SAM-DIP-A002167, SAMC • 2♀ Hester Malan N. R. (= Goegap Nature Reserve), Namaqualand; 29°40'00"S, 018°02'00"E; 16 Oct. 1985; Struck, M. leg.; SAM-DIP-A004968, SAMC • 1♀ Kamieskroon Namaqualand; 30°12'00"S, 017°56'00"E; Nov. 1936; SAM Museum Staff leg.; SAM-DIP-A002143, SAMC • 1♀ Kamieskroon, 10 km E; 30°11'39"S, 018°00'10"E; 630 m a.s.l.; 17 Oct. 1977; Miller, R. M. leg.; NMSA-DIP-049597, NMSA • 1♂ Nieuwoudtville; 31°23'00"S, 019°06'00"E; Aug. 1928; Brauns, H. leg.; NMSA-DIP-056002, NMSA • 1♂ Nieuwoudtville, 1 km W, caravan park and area; 31°23'00"S, 019°06'00"E; 800 m a.s.l.; 04 Nov. 1991; Londt, Jason leg.; NMSA-DIP-92784, NMSA • 1♀ Nieuwoudtville, 1 km W, caravan park and area; 31°23'00"S, 019°06'00"E; 800 m a.s.l.; 04 Nov. 1991; Londt, Jason leg.; NMSA-DIP-92785, NMSA • 1♀ Nieuwoudtville, 9 km W, Summit Vanrhyn's Pass; 31°22'00"S, 019°01'00"E; 700 m a.s.l.; 04 Nov. 1991; Londt, Jason leg.; NMSA-DIP-92829, NMSA • 1♂ Outiep Garies Namaqualand (=Namakwaland); 30°33'27"S, 017°59'34"E; Sep. 1953; Toit,

J. leg.; SAM-DIP-A002145, SAMC • 1♀ Springbok, 8 km NW, road to Nababeep; 29°37'16"S, 017°49'59"E; 985 m a.s.l.; 30 Sep. 2009; Londt, Jason, Dikow, Torsten leg.; thick woody fynbos; NMSA-DIP-92350, NMSA • 1♂ Springbok, 8 km NW, road to Nababeep; 29°37'16"S, 017°49'59"E; 985 m a.s.l.; 30 Sep. 2009; Londt, Jason, Dikow, Torsten leg.; thick woody fynbos; NMSA-DIP-92351, NMSA

SOUTH AFRICA – Western Cape • 1♂ Brenton on Sea; 34°04'20"S, 023°01'07"E; 10 Dec. 1979; Londt, Jason, Stuckenberg, Brian leg.; dune and hillside vegetation; NMSA-DIP-050742, NMSA • 1♂ Brenton on Sea; 34°04'20"S, 023°01'07"E; 10 Dec. 1979; Londt, Jason, Stuckenberg, Brian leg.; dune and hillside vegetation; NMSA-DIP-89541, NMSA • 1♀ Brenton on Sea; 34°04'20"S, 023°01'07"E; 10 Dec. 1979; Londt, Jason, Stuckenberg, Brian leg.; dune and hillside vegetation; NMSA-DIP-89542, NMSA • 1♀ Cape Town; 33°59'00"S, 018°26'00"E; 1874; Trimen, R. leg.; SAM-DIP-A002169, SAMC • 1♂ Cape Town; 33°59'00"S, 018°26'00"E; 1915; Péringuey, L. leg.; SAM-DIP-A002142, SAMC • 1♀ Ceres, upper sources of Olifants River; 33°12'29"S, 019°14'49"E; Oct. 1949; SAM Museum Staff leg.; SAM-DIP-A002118, SAMC • 3♀ 3♂ Ceres, upper sources of Olifants River; 33°12'29"S, 019°14'49"E; Dec. 1949; SAM Museum Staff leg.; SAM-DIP-A002118, SAMC • 1♀ 1♂ Ceres, upper sources of Olifants River; 33°12'29"S, 019°14'49"E; Dec. 1949; SAM Museum Staff leg.; SAM-DIP-A002118, SAMC • 1♂ Ceres, upper sources of Olifants River; 33°12'29"S, 019°14'49"E; Dec. 1949; SAM Museum Staff leg.; SAM-DIP-A002118, SAMC • 1♂ Ceres, upper sources of Olifants River; 33°12'29"S, 019°14'49"E; Dec. 1949; SAM Museum Staff leg.; SAM-DIP-A002118, SAMC • 1♀ Citrusdale, 14 km NNW; 32°31'00"S, 018°58'00"E; 300 m a.s.l.; 01 Nov. 1991; Londt, Jason leg.; woody plants, sandy; NMSA-DIP-92878, NMSA • 1♂ Citrusdale, 14 km NNW; 32°31'00"S, 018°58'00"E; 300 m a.s.l.; 01 Nov. 1991; Londt, Jason leg.; woody plants, sandy; NMSA-DIP-92879, NMSA • 1♀ Citrusdale, 14 km NNW; 32°31'00"S, 018°58'00"E; 300 m a.s.l.; 01 Nov. 1991; Londt, Jason leg.; woody plants, sandy; NMSA-DIP-92880, NMSA • 1♂ Citrusdale, 14 km NNW; 32°31'00"S, 018°58'00"E; 300 m a.s.l.; 01 Nov. 1991; Londt, Jason leg.; woody plants, sandy; NMSA-DIP-92881, NMSA • 1♀ Clanwilliam, 4 m. S; 32°13'18"S, 018°51'08"E; Sep. 1961; SAM Museum Staff leg.; SAM-DIP-A002168, SAMC • 1♀ coast near Swartklip, 20 km SW Stellenbosch; 34°04'00"S, 018°43'00"E; 0 m a.s.l.; 30 Oct. 1991; Londt, Jason leg.; NMSA-DIP-92687, NMSA • 1♀ coast near Swartklip, 20 km SW Stellenbosch; 34°04'00"S, 018°43'00"E; 0 m a.s.l.; 30 Oct. 1991; Londt, Jason leg.; NMSA-DIP-92836, NMSA • 1♂ coast near Swartklip, 20 km SW Stellenbosch; 34°04'00"S, 018°43'00"E; 0 m a.s.l.; 30 Oct. 1991; Londt, Jason leg.; NMSA-DIP-92837, NMSA • 1♂ coast near Swartklip, 20 km SW Stellenbosch; 34°04'00"S, 018°43'00"E; 0 m a.s.l.; 30 Oct. 1991; Londt, Jason leg.; NMSA-DIP-92841, NMSA • 1♂ Darling Wild Flower Reserve; 33°23'14"S, 018°22'56"E; 180 m a.s.l.; 13 Oct. 2006; Londt, Jason leg.; Mixed fynbos, sandy area; NMSA-DIP-92367, NMSA • 1♂ Darling Wild Flower Reserve; 33°23'14"S, 018°22'56"E; 180 m a.s.l.; 13 Oct. 2006; Londt, Jason leg.; Mixed fynbos, sandy area; NMSA-DIP-92368, NMSA • 1♀ Darling Wild Flower Reserve; 33°23'14"S, 018°22'56"E; 180 m a.s.l.; 13 Oct. 2006; Londt, Jason leg.; Mixed fynbos, sandy area; NMSA-DIP-92369, NMSA • 1♀ Darling Wild Flower Reserve; 33°23'14"S, 018°22'56"E; 180 m a.s.l.; 13 Oct. 2006; Londt, Jason leg.; Mixed fynbos, sandy area; NMSA-DIP-92370, NMSA • 1♂ Darling Wild Flower Reserve; 33°23'14"S, 018°22'56"E; 180 m a.s.l.; 13 Oct. 2006; Londt, Jason leg.; Mixed fynbos, sandy area; NMSA-DIP-92371, NMSA • 1♀ Darling, 3 km S; 33°24'21"S, 018°22'51"E; 28 Sep. 1979;

Londt, Jason leg.; well veget. hillside above wheatlands; NMSA-DIP-050598, NMSA • 1♀ Darling, 3 km S; 33°24'21"S, 018°22'51"E; 28 Sep. 1979; Londt, Jason leg.; well, veget. hillside above wheatlands; NMSA-DIP-89545, NMSA • 3♂ Eland's Bay, Leipoldtville; 32°18'44"S, 018°20'29"E; Oct. 1947; SAM Museum Staff leg.; SAM-DIP-A002134, SAMC • 1♂ Elandsbaai, 2.5 mi. S; 32°21'09"S, 018°19'32"E; 30 m a.s.l.; 16 Sep. 1972; Irwin, M. E., Irwin, B. J. leg.; coastal sand dunes; NMSA-DIP-050959, NMSA • 1♀ Elephant Leisure Resort, 8 km S of Citrusdal; 32°40'33"S, 019°00'34"E; 250 m a.s.l.; 11 Oct. 2014; Reavell, P. leg.; NMSA-DIP-192817, NMSA • 1♂ Fish Hoek., Cape Peninsula; 34°07'55"S, 018°26'13"E; Oct. 1931; Munro, H. leg.; NMSA-DIP-049316, NMSA • 1♀ Fish Hoek., Cape Peninsula; 34°07'55"S, 018°26'13"E; Oct. 1931; Munro, H. leg.; NMSA-DIP-89484, NMSA • 1♂ Goukamma Nature Reserve; 34°02'00"S, 022°57'00"E; 25 Dec. 1988; Londt, Jason leg.; Macchia sandy ground and shrubs; NMSA-DIP-056053, NMSA • 1♀ Goukamma Nature Reserve; 34°02'00"S, 022°57'00"E; 25 Dec. 1988; Londt, Jason leg.; Macchia sandy ground and shrubs; NMSA-DIP-89521, NMSA • 1♂ Gifberg Pass summit; 31°46'00"S, 018°45'00"E; 690 m a.s.l.; 16 Nov. 1986; Londt, Jason, Quickelberge, C. leg.; rocky macchia; NMSA-DIP-053209, NMSA • 1♂ Gifberg Pass, 21 km south Vanrhynsdorp; 31°46'21"S, 018°45'59"E; 540 m a.s.l.; 08 Sep. 2002; Londt, Jason leg.; montane macchia; NMSA-DIP-84612, NMSA • 1♂ Gifberg Pass, 21 km south Vanrhynsdorp; 31°46'21"S, 018°45'59"E; 540 m a.s.l.; 08 Sep. 2002; Londt, Jason leg.; montane macchia; NMSA-DIP-84613, NMSA • 1♀ Gifberg, flat summit, 24 km S Vanrhysdorp; 31°46'00"S, 018°48'00"E; 600 m a.s.l.; 03 Nov. 1991; Londt, Jason leg.; NMSA-DIP-92780, NMSA • 1♂ Gifberg, flat summit, 24 km S Vanrhysdorp; 31°46'00"S, 018°48'00"E; 600 m a.s.l.; 03 Nov. 1991; Londt, Jason leg.; NMSA-DIP-92781, NMSA • 1♀ 1♂ Gifberg, flat summit, 24 km S Vanrhysdorp; 31°46'00"S, 018°48'00"E; 600 m a.s.l.; 03 Nov. 1991; Londt, Jason leg.; NMSA-DIP-92782, NMSA • 1♂ Goukamma Nature Reserve, along Bush Pig trail; 34°03'41"S, 022°56'08"E; 29 m a.s.l.; 09 Dec. 2015; collected p.m. (noon–15:00); Dikow, Torsten leg.; fynbos covered sand dune; USNMENT01115015, USNM • 1♂ Goukamma Nature Reserve, along Bush Pig trail; 34°03'41"S, 022°56'08"E; 29 m a.s.l.; 09 Dec. 2015; collected p.m. (noon–15:00); Dikow, Torsten leg.; fynbos covered sand dune; USNMENT01115042, USNM • 1♂ Goukamma Nature Reserve, along Bush Pig trail; 34°03'41"S, 022°56'08"E; 29 m a.s.l.; 09 Dec. 2015; collected p.m. (noon–15:00); Dikow, Torsten leg.; fynbos covered sand dune; USNMENT01115157, USNM • 1♀ Goukamma Nature Reserve, along Bush Pig trail; 34°03'41"S, 022°56'08"E; 29 m a.s.l.; 09 Dec. 2015; collected p.m. (noon–15:00); Dikow, Torsten leg.; fynbos covered sand dune; USNMENT01115166, USNM • 1♂ Goukamma Nature Reserve, along Bush Pig trail; 34°03'41"S, 022°56'08"E; 29 m a.s.l.; 09 Dec. 2015; collected p.m. (noon–15:00); Dikow, Torsten leg.; fynbos covered sand dune; USNMENT01115171, USNM • 1♂ Goukamma Nature Reserve, along Bush Pig trail; 34°03'41"S, 022°56'08"E; 29 m a.s.l.; 09 Dec. 2015; collected p.m. (noon–15:00); Dikow, Torsten leg.; fynbos covered sand dune; USNMENT01115221, USNM • 1♂ Hout Bay; 34°02'55"S, 018°19'55"E; Nov. 1943; leg.; SAM-DIP-A016116, SAMC • 1♂ Hout Bay; 34°02'55"S, 018°19'55"E; Nov. 1943; leg.; SAM-DIP-A016117, SAMC • 1♂ Kagga Kamma Nature Reserve; 32°45'09"S, 019°34'13"E; 1075 m a.s.l.; 22–23 Nov. 2008; Londt, Jason leg.; Sandy area with tall fynbos near houses; NMSA-DIP-92985, NMSA • 1♂ Kagga Kamma Nature Reserve; 32°45'09"S, 019°34'13"E; 1075 m a.s.l.; 22–23 Nov. 2008; Londt, Jason leg.; Sandy area with tall fynbos near houses; NMSA-DIP-92986, NMSA • 1♂

Klaver (= Klawer); 31°46'29"S, 018°37'07"E; 19 Sep. 1917; Roberts, A. leg.; NMSA-DIP-048223, NMSA • 2♀ 2♂ Kleinmond; 34°20'43"S, 019°00'52"E; Jan. 1937; SAM Museum Staff leg.; SAM-DIP-A002135, SAMC • 1♀ Knersvlakte, North of Van Rhynsdorp, SW cape; 31°15'00"S, 018°45'00"E; 06–09 Oct. 1964; Stuckenberg, Brian, Stuckenberg, P. leg.; NMSA-DIP-89508, NMSA • 1♂ Knersvlakte, North of Van Rhynsdorp, SW cape; 31°15'00"S, 018°45'00"E; 06–09 Oct. 1964; Stuckenberg, Brian, Stuckenberg, P. leg.; NMSA-DIP-89509, NMSA • 1♂ Knersvlakte, North of Van Rhynsdorp, SW cape; 31°15'00"S, 018°45'00"E; 06–09 Oct. 1964; Stuckenberg, Brian, Stuckenberg, P. leg.; NMSA-DIP-89513, NMSA • 1♀ Knysna Heads, N side; 34°04'25"S, 023°03'55"E; 09–10 Dec. 1979; Londt, Jason, Stuckenberg, Brian leg.; open hillside grass; NMSA-DIP-055992, NMSA • 1♂ Knysna Heads, N side; 34°04'25"S, 023°03'55"E; 09–10 Dec. 1979; Londt, Jason, Stuckenberg, Brian leg.; open hillside grass; NMSA-DIP-89514, NMSA • 1♂ Knysna Heads, N side; 34°04'25"S, 023°03'55"E; 09–10 Dec. 1979; Londt, Jason, Stuckenberg, Brian leg.; open hillside grass; NMSA-DIP-89543, NMSA • 1♂ Knysna Heads, N side; 34°04'25"S, 023°03'55"E; 09–10 Dec. 1979; Londt, Jason, Stuckenberg, Brian leg.; open hillside grass; NMSA-DIP-89544, NMSA • 1♂ Knysna, Keurbooms River; 33°53'12"S, 23°14'30"E; Jan. 1931; Barnard, K. leg.; SAM-DIP-A002144, SAMC • 1♂ Kommetjie; 34°09'00"S, 018°20'00"E; 30 m a.s.l.; 01 Oct. 1993; Londt, Jason leg.; Macchia, sandy area, hillside; NMSA-DIP-95244, NMSA • 1♂ Kommetjie; 34°09'00"S, 018°20'00"E; 30 m a.s.l.; 01 Oct. 1993; Londt, Jason leg.; Macchia, sandy area, hillside; NMSA-DIP-95245, NMSA • 1♀ Kommetjie, hillside; 34°09'00"S, 018°20'00"E; 30 m a.s.l.; 01 Oct. 1993; Londt, Jason leg.; Macchia, sandy area; NMSA-DIP-95243, NMSA • 1♀ Laaiplek; 32°47'10"S, 018°09'40"E; 09 Oct. 1977; Miller, R. M. leg.; NMSA-DIP-049611, NMSA • 1♀ Laaiplek; 32°47'10"S, 018°09'40"E; 09 Oct. 1977; Miller, R. M. leg.; NMSA-DIP-89517, NMSA • 1♂ Laaiplek; 32°47'10"S, 018°09'40"E; 09 Oct. 1977; Miller, R. M. leg.; NMSA-DIP-89518, NMSA • 1♂ Lamberts B. P. C. (= Lambert's Bay); 32°05'24"S, 018°18'47"E; 20 Nov. 1917; Roberts, A. leg.; NMSA-DIP-048245, NMSA • 3♂ Moordenaars Karoo Swanepoel; 32°58'02"S, 020°48'56"E; Oct. 1952; SAM Museum Staff leg.; SAM-DIP-A002133, SAMC • 1♀ Muizenberg; 34°05'24"S, 018°29'45"E; 27 Dec. 1934; van Son, G. leg.; NMSA-DIP-051536, NMSA • 1♂ Muizenberg (Cape Town), Macchia slopes above; 34°05'24"S, 018°29'45"E; 28 Nov. 1981; Stuckenberg, Brian leg.; macchia slopes; NMSA-DIP-048697, NMSA • 1♂ Muizenberg (Cape Town), Macchia slopes above; 34°05'24"S, 018°29'45"E; 28 Nov. 1981; Stuckenberg, Brian leg.; macchia slopes; NMSA-DIP-89515, NMSA • 1♂ Nuwekloof, 3 km E Gouda; 33°19'00"S, 019°06'00"E; 120 m a.s.l.; 05 Oct. 1993; Londt, Jason leg.; Old road and riverbanks; NMSA-DIP-93299, NMSA • 1♂ Nuwekloof, 3 km E Gouda; 33°19'00"S, 019°06'00"E; 120 m a.s.l.; 05 Oct. 1993; Londt, Jason leg.; Old road and riverbanks; NMSA-DIP-93300, NMSA • 3♀ Olifants River between Citrusdal and Clanwilliam; 32°26'43"S, 018°57'31"E; Oct. 1931; SAM Museum Staff leg.; SAM-DIP-A002158, SAMC • 1♀ 5♂ Paleisheuvel; 32°28'25"S, 018°43'19"E; Nov. 1949; SAM Museum Staff leg.; SAM-DIP-A002125, SAMC • 1♀ Paleisheuvel; 32°28'25"S, 018°43'19"E; Nov. 1949; SAM Museum Staff leg.; SAM-DIP-A002125, SAMC • 1♂ Papendrop (= Papendorp) Olifaunts River; 31°41'55"S, 018°12'34"E; Oct. 1950; SAM Museum Staff leg.; SAM-DIP-A002148, SAMC • 9♀ 18♂ Pearly Beach, Bredarsdorp Div.; 34°40'09"S, 019°30'00"E; 01 Dec. 1938; SAM Museum Staff leg.; SAM-DIP-A016213, SAMC • 1♀ Pearly Beach, Bredarsdorp Div.; 34°40'09"S, 019°30'00"E; 01–13 Dec. 1938; SAM Museum Staff leg.; SAM-DIP-A016206, SAMC • 1♂ Pearly

Beach, Bredarsdorp Div.; 34°40'09"S, 019°30'00"E; 01–13 Dec. 1938; SAM Museum Staff leg.; SAM-DIP-A016207, SAMC • 2♂ Pearly Beach, Bredarsdorp Div.; 34°40'09"S, 019°30'00"E; 01–13 Dec. 1938; SAM Museum Staff leg.; SAM-DIP-A016213, SAMC • 1♂ Pearly Beach, Bredarsdorp Div.; 34°40'09"S, 019°30'00"E; Dec. 1958; SAM Museum Staff leg.; SAM-DIP-A002147, SAMC • 1♂ Plettenberg; 34°03'00"S, 023°22'00"E; Jan. 1952; leg.; SAM-DIP-A002149, SAMC • 1♂ Polsuesl (Pol—l) R.; 34°22'07"S, 018°52'30"E; Dec. 1932; Wood, H. G. leg.; SAM-DIP-A002137, SAMC • 1♂ Rocherpan Nature Reserve Trail; 32°36'20"S, 018°18'24"E; 11 m a.s.l.; 03 Oct. 2019; Cabrero, A., Deschodt, C. leg.; open areas near pan; Coll. Cabrero • 1♂ Saldanha Bay (Hopefield crossed out); 33°00'23"S, 017°56'08"E; Sep. 1960; SAM Museum Staff leg.; SAM-DIP-A002146, SAMC • 1♀ Silvermine Nature Reserve; 34°08'00"S, 018°26'00"E; 22 Dec. 1988; Londt, Jason leg.; Macchia sandy ground and rocks; NMSA-DIP-056051, NMSA • 1♀ Silvermine Nature Reserve; 34°05'00"S, 018°25'00"E; 442 m a.s.l.; 16 Dec. 1995; Londt, Jason leg.; NMSA-DIP-95494, NMSA • 1♀ Silvermine Nature Reserve; 34°05'00"S, 018°25'00"E; 442 m a.s.l.; 16 Dec. 1995; Londt, Jason leg.; NMSA-DIP-95495, NMSA • 1♂ Silvermine Nature Reserve; 34°05'00"S, 018°25'00"E; 442 m a.s.l.; 16 Dec. 1995; Londt, Jason leg.; NMSA-DIP-95496, NMSA • 1♂ Silvermine Nature Reserve; 34°05'00"S, 018°25'00"E; 442 m a.s.l.; 16 Dec. 1995; Londt, Jason leg.; NMSA-DIP-95497, NMSA • 1♀ Silvermine Nature Reserve; 34°05'00"S, 018°25'00"E; 442 m a.s.l.; 16 Dec. 1995; Londt, Jason leg.; NMSA-DIP-95498, NMSA • 1♀ Silvermine Nature Reserve; 34°05'00"S, 018°25'00"E; 442 m a.s.l.; 16 Dec. 1995; Londt, Jason leg.; NMSA-DIP-95502, NMSA • 1♂ Somerset Strand; 34°04'52"S, 018°48'52"E; 08 Nov. 1926; Brauns, H. leg.; NMSA-DIP-89527, NMSA • 1♂ Somerset West Strand; 34°04'52"S, 018°48'52"E; Oct. 1925; Brauns, H. leg.; NMSA-DIP-054598, NMSA • 1♂ Somerset West Strand; 34°04'52"S, 018°48'52"E; 25 Nov. 1925; Brauns, H. leg.; NMSA-DIP-054599, NMSA • 1♂ Somerset West Strand; 34°04'52"S, 018°48'52"E; 25 Nov. 1925; Brauns, H. leg.; NMSA-DIP-89494, NMSA • 1♀ Stellenbosch; 33°56'00"S, 018°51'00"E; 1888; leg.; SAM-DIP-A002163, SAMC • 1♂ Stellenbosch; 33°56'00"S, 018°51'00"E; 15 Oct. 1916; Brauns, H. leg.; NMSA-DIP-056227, NMSA • 1♂ Stellenbosch; 33°56'00"S, 018°51'00"E; 15 Oct. 1916; Brauns, H. leg.; NMSA-DIP-056227, NMSA • 1♂ Stellenbosch; 33°56'00"S, 018°51'00"E; 15 Oct. 1916; Brauns, H. leg.; NMSA-DIP-89486, NMSA • 1♂ Stellenbosch; 33°56'00"S, 018°51'00"E; 15 Oct. 1916; Brauns, H. leg.; NMSA-DIP-89498, NMSA • 1♂ Stellenbosch; 33°56'00"S, 018°51'00"E; Oct. 1925; Brauns, H. leg.; NMSA-DIP-89487, NMSA • 1♂ Stellenbosch; 33°56'00"S, 018°51'00"E; Oct. 1925; Brauns, H. leg.; NMSA-DIP-89495, NMSA • 1♀ Stellenbosch; 33°56'00"S, 018°51'00"E; 01 Dec. 1925; Brauns, H. leg.; NMSA-DIP-056220, NMSA • 1♂ Stellenbosch; 33°56'00"S, 018°51'00"E; 05 Oct. 1926; Brauns, H. leg.; NMSA-DIP-056251, NMSA • 1♀ Stellenbosch; 33°56'00"S, 018°51'00"E; 10 Oct. 1926; Brauns, H. leg.; NMSA-DIP-056252, NMSA • 1♂ Stellenbosch; 33°56'00"S, 018°51'00"E; 12 Oct. 1926; Brauns, H. leg.; NMSA-DIP-056253, NMSA • 1♀ Stellenbosch; 33°56'00"S, 018°51'00"E; 14 Oct. 1926; Brauns, H. leg.; NMSA-DIP-89529, NMSA • 1♂ Stellenbosch; 33°56'00"S, 018°51'00"E; 15 Oct. 1926; Brauns, H. leg.; NMSA-DIP-056247, NMSA • 1♀ Stellenbosch; 33°56'00"S, 018°51'00"E; 20 Oct. 1926; Brauns, H. leg.; NMSA-DIP-056228, NMSA • 1♀ Stellenbosch; 33°56'00"S, 018°51'00"E; 20 Oct. 1926; Brauns, H. leg.; NMSA-DIP-056257, NMSA • 1♂ Stellenbosch; 33°56'00"S, 018°51'00"E; 20 Oct. 1926; Brauns, H. leg.; NMSA-DIP-89496, NMSA • 1♂ Stellenbosch; 33°56'00"S, 018°51'00"E; 20 Oct. 1926; Brauns, H. leg.;

NMSA-DIP-89526, NMSA • 1♂ Stellenbosch; 33°56'00"S, 018°51'00"E; 20 Oct. 1926; Brauns, H. leg.; NMSA-DIP-89548, NMSA • 1♂ Stellenbosch; 33°56'00"S, 018°51'00"E; 21 Oct. 1926; Brauns, H. leg.; NMSA-DIP-056258, NMSA • 1♀ Stellenbosch; 33°56'00"S, 018°51'00"E; 22 Oct. 1926; Brauns, H. leg.; NMSA-DIP-056259, NMSA • 1♂ Stellenbosch; 33°56'00"S, 018°51'00"E; 22 Oct. 1926; Brauns, H. leg.; NMSA-DIP-89524, NMSA • 1♂ Stellenbosch; 33°56'00"S, 018°51'00"E; 22 Oct. 1926; Brauns, H. leg.; NMSA-DIP-89528, NMSA • 1♂ Stellenbosch; 33°56'00"S, 018°51'00"E; 22 Oct. 1926; Brauns, H. leg.; NMSA-DIP-89552, NMSA • 1♂ Stellenbosch; 33°56'00"S, 018°51'00"E; 25 Oct. 1926; Brauns, H. leg.; NMSA-DIP-056205, NMSA • 1♂ Stellenbosch; 33°56'00"S, 018°51'00"E; 25 Oct. 1926; Brauns, H. leg.; NMSA-DIP-056260, NMSA • 1♂ Stellenbosch; 33°56'00"S, 018°51'00"E; 25 Oct. 1926; Brauns, H. leg.; NMSA-DIP-89546, NMSA • 1♀ Stellenbosch; 33°56'00"S, 018°51'00"E; 25 Oct. 1926; Brauns, H. leg.; NMSA-DIP-89547, NMSA • 1♀ Stellenbosch; 33°56'00"S, 018°51'00"E; 25 Oct. 1926; Brauns, H. leg.; NMSA-DIP-89553, NMSA • 1♂ Stellenbosch; 33°56'00"S, 018°51'00"E; 25 Oct. 1926; Brauns, H. leg.; NMSA-DIP-98525, NMSA • 1♀ Stellenbosch; 33°56'00"S, 018°51'00"E; 30 Oct. 1926; Brauns, H. leg.; NMSA-DIP-89549, NMSA • 1♂ Stellenbosch; 33°56'00"S, 018°51'00"E; 04 Nov. 1926; Brauns, H. leg.; NMSA-DIP-89531, NMSA • 1♂ Stellenbosch; 33°56'00"S, 018°51'00"E; 04 Nov. 1926; Brauns, H. leg.; NMSA-DIP-89532, NMSA • 1♂ Stellenbosch; 33°56'00"S, 018°51'00"E; 04 Nov. 1926; Brauns, H. leg.; NMSA-DIP-89550, NMSA • 1♂ Stellenbosch; 33°56'00"S, 018°51'00"E; 04 Nov. 1926; Brauns, H. leg.; NMSA-DIP-89551, NMSA • 1♂ Stellenbosch; 33°56'00"S, 018°51'00"E; 15 Nov. 1926; Brauns, H. leg.; NMSA-DIP-056239, NMSA • 1♀ Table Mountain National Park; 34°14'27"S, 018°23'10"E; 20 m a.s.l.; 16 Oct. 2006; Londt, Jason leg.; sandy hillside fynbos area with flowers; NMSA-DIP-106783, NMSA • 1♂ Table Mountain National Park, Cape of Good Hope area; 34°20'42"S, 018°27'46"E; 20 m a.s.l.; 10 Oct. 2006; Londt, Jason leg.; coastal fynbos; NMSA-DIP-106781, NMSA • 1♂ Table Mountain National Park, Olifantsbos; 34°14'27"S, 018°23'10"E; 20 m a.s.l.; 16 Oct. 2006; Londt, Jason leg.; Sandy hillside fynbos area with flowers; NMSA-DIP-106782, SAMC • 1♂ Table Mountain National Park, Olifantsbos; 34°14'27"S, 018°23'10"E; 20 m a.s.l.; 16 Oct. 2006; Londt, Jason leg.; Sandy hillside fynbos area with flowers; NMSA-DIP-106784, NMSA • 1♀ Table Mountain National Park, Olifantsbos; 34°14'27"S, 018°23'10"E; 20 m a.s.l.; 16 Oct. 2006; Londt, Jason leg.; Sandy hillside fynbos area with flowers; NMSA-DIP-106785, NMSA • 1♂ Table Mountain National Park, Olifantsbos; 34°14'27"S, 018°23'10"E; 20 m a.s.l.; 16 Oct. 2006; Londt, Jason leg.; Sandy hillside fynbos area with flowers; NMSA-DIP-106786, NMSA • 1♂ Table Mountain National Park, Olifantsbos; 34°14'27"S, 018°23'10"E; 20 m a.s.l.; 16 Oct. 2006; Londt, Jason leg.; Sandy hillside fynbos area with flowers; NMSA-DIP-106787, NMSA • 2♂ Wit River (= Witrivier) Valley, Bains Kloof (= Bainskloof Pass); 33°34'12"S, 019°08'20"E; Dec. 1949; SAM Museum Staff leg.; SAM-DIP-A002132, SAMC • 1♂ Wit River (= Witrivier) Valley, Bains Kloof (= Bainskloof Pass); 33°34'12"S, 019°08'20"E; Dec. 1949; SAM Museum Staff leg.; SAM-DIP-A002132, SAMC • 1♀ Ysterfontein (= Yzerfontein); 33°20'58"S, 018°09'15"E; 20 Oct. 1964; Stuckenberg, Brian leg.; NMSA-DIP-048768, NMSA • 1♀ Ceres, upper sources of Olifants River; 33°12'29"S, 019°14'49"E; Dec. 1949; SAM Museum Staff leg.; SAM-DIP-A002118, SAMC

Distribution, biodiversity hotspots, phenology, and biology. Known from localities in the Northern Cape, Western Cape, and the Eastern Cape of South Af-

rica (Fig. 9). This species is widely distributed and known from 216 specimens, collected in 61 collecting events spread between 1874–2019. The species is known to occur in the Succulent Karoo, Cape Floristic Region, and the Maputaland-Pondoland-Albany biodiversity hotspots. Adult flies are active from August - January (Table 2). Adult flies have been observed visiting flowers (<https://www.inaturalist.org/observations/64518819>). Larvae are unknown but presumed parasitoids as other Bombyliidae, hosts are unknown (Yeates and Greathead 1997).

Remarks. Variation in the wing venation connecting R1 and R₂₊₃ has been observed in a few specimens of this species. Some specimens had 1–3 connecting crossveins (Fig. 10A), instead of the typical 2 crossveins. Coloration is also variable within this species; darker brown specimens and lighter specimens with sandy yellow coloration and more transparent wings, instead of the normal brown have been observed, Hesse (1956) also made note of this variation.

***Enica sporanthera* (Hesse, 1956), comb. nov.**

Fig. 11

Taxon depository. ZooBank: <https://zoobank.org/12C60B29-A951-413E-9E8A-6E73C7434B7A>.

Diagnosis. The species is distinguished from other species in the genus by the elongated black spot on the dorsal occiput in both males and females, which extends across the head.

Description. Head: wider than high, creamy white; males holoptic, females dichoptic, vertex and compound eyes at same level; frons (at level of antennal insertion) more or less parallel-sided, female: similar to head, slightly darker than head, without dark spot, males: similar to head, slightly darker than head; frons black setose, with white scales, males no setation near eyes, females setose near eyes only dorsally; ocellar tubercle slightly raised, dark reddish brown to black, black macrosetose, white or light brown scales posteriorly; occiput collar of dense snow-white setose, white scales antero-dorsally, dorsal eye margin with dark brown to black spots present, touching or almost touching eye margin, never extending ventrally past level of antennae; gena creamy white, extremely sparsely setose.

Proboscis and maxillary palpus: proboscis straight, black; labella only forming distal tip of proboscis, apically rounded, minute black setose; maxillary palpus not extending beyond oral cavity, light brown to brown, light yellowish-brown setose.

Antenna: dark brown; scape creamy white, approximately as long as pedicel, black setose dorsally and ventrally, setae short, not extending to end of pedicel; pedicel brown or creamy white, short black setose dorsally; postpedicel dark brown, tapering distally, longer than scape and pedicel combined, white or light yellow scales dorsally; stylus reduced, only apical 'seta-like' sensory element present, situated sub-apically in cavity on postpedicel.

Thorax: light orangish brown; scutum predominantly black, reddish on margins, grey to brown scales centrally and white scales peripherally; setation: acr setae present, black, dc setae present, black; prosternum silvery grey pubescence; proepisternum silvery grey pubescence, long yellowish-white setose, white scales; anteprenotum silvery grey pubescence, dull white scales anteriorly; postpronotum silvery grey pubescence, asetose, with medial dark brown to black stripe; postpronotal lobe silvery grey pubescence, white scales, white and

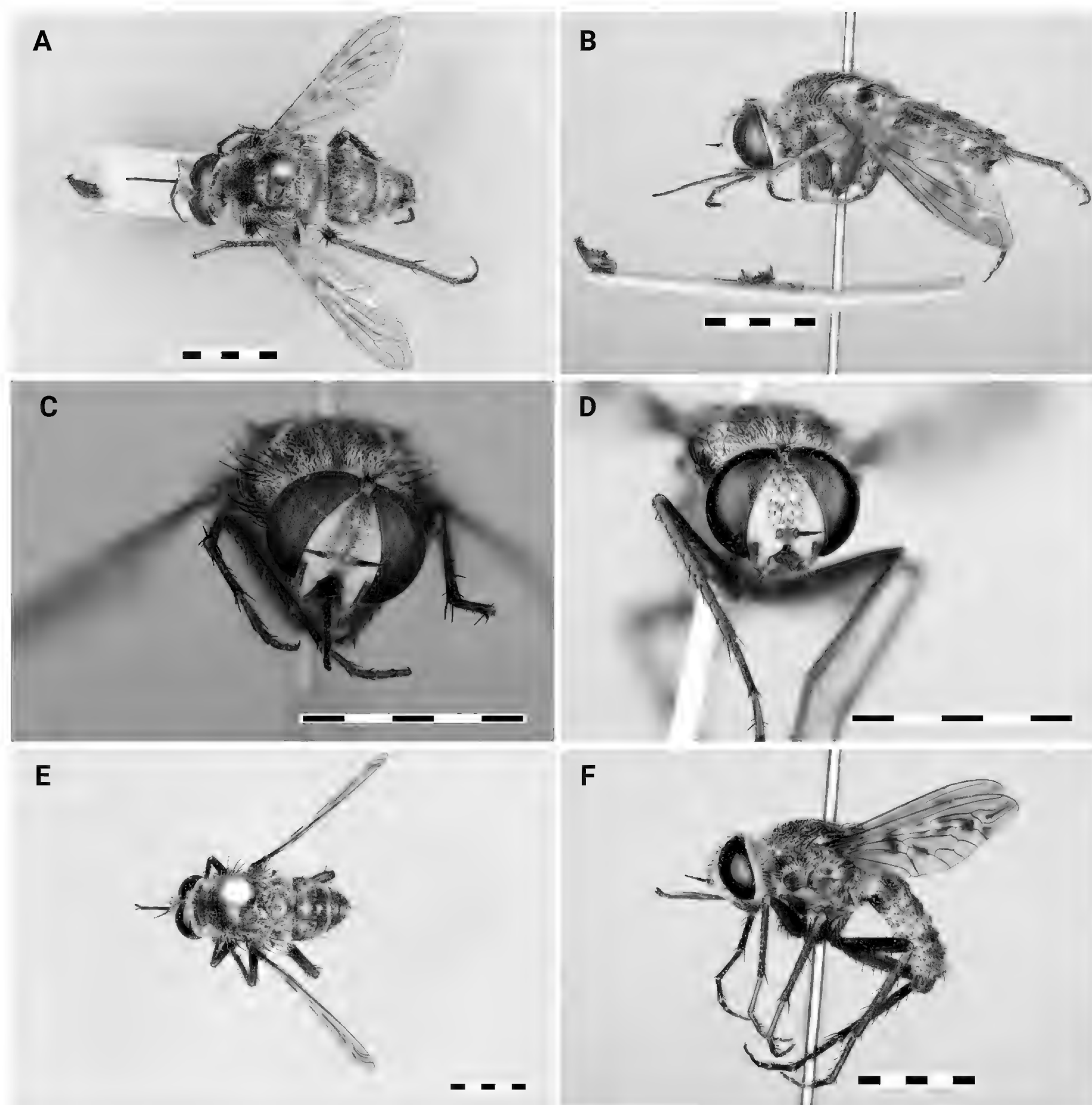


Figure 11. *Enica sporanthera* ♂ SAM-DIP-A002174 (**A–C**) **A** habitus, dorsal view **B** habitus, lateral view **C** habitus, frontal view; *Enica syrticola* ♂ NMSA-DIP-89516 (**D–F**) **D** habitus, frontal view **E** habitus, dorsal view **F** habitus, lateral view. Scale bars: 5 mm.

black setose; pleuron silvery grey pubescence; proepimeron silvery grey pubescence, asetose; anepisternum silvery grey pubescence, white scales ventrally, black macrosetose dorsally; anepimeron silvery grey pubescence, asetose; katepisternum silvery grey pubescence, white scales dorsally; laterotergite silvery grey pubescence, asetose; meron + metepisternum silvery grey pubescence, white scales dorsally; metepimeron silvery grey pubescence, asetose; scutellum red, anterior black spot, apubescent, ds sctl setae black macrosetose, ap sctl setae comprised of white scales, black setose.

Leg: light orangish brown, covered in scales, some regular setae present; pro coxa light orangish brown to brown, silvery grey pubescence, white scales, thin white setose, thick black setose; pro femur dorsally dark brown, ventrally orangish brown, white scales ventrally, brown scales dorsally, few short black setae;

pro tibia light brown, raised short and fine dark brown setose ventrally, large black setose dorsally; mes coxa light orangish brown, white pubescence, white scales, thin white setose, thick black setose; mes femur dorsally dark brown, ventrally orangish brown, white scales ventrally, brown scales dorsally, few short black setae; mes tibia light brown, dark brown scales, long black setose, distal tip with long black setae; met coxa light orangish brown, white pubescent, white scales, thin white setose, thick black setose, anteriorly without any protuberance; met trochanter short black setose ventrally, white scales dorsally, without protuberance; met femur dorsally dark brown, ventrally orangish brown, white scales ventrally, brown scales dorsally, few short black setae; met tibia light brown, dark brown scales, large black setose, distal tip with long black macrosetae of varying sizes; proximal pro, mes, and met tarsomeres longer than following 2 tarsomeres combined, proximal met tarsomere as wide as following tarsomeres; pro tarsomere with dark brown scales dorsally, black setose ventrally; mes tarsomere with dark brown scales dorsally, black setose ventrally; met tarsomere with dark brown scales dorsally, black setose ventrally; claw smoothly arched distally.

Wing: 8.2–8.9 mm, microtrichia absent; membrane color pattern males: minimal spots of infuscation in r_{2+3} , br, and bm, females: darkly infuscated except for white tinted base of wing, r-r, r-m, base of r_{2+3} , base of m_2 , m-cu, split between M_1+2 and M_3 ; costal vein dark brown short setose, whitish clear setose proximally; R_{2+3} distally distinctly arching anteriorly, r_1 open; R_4 terminating anterior to wing apex, distinctly arching anteriorly; cell r_4 open, proximally R_4 and R_5 parallel, R_4 strongly diverging anteriorly in distal $2/3$; R_5 terminating posterior to wing apex; r_5 open; M_1 terminating posterior to wing apex; cell d closed by base of M_2 and m-m, r-m situated in distal $1/4$; m_3 open; cua open; alula greatly reduced, nearly straight wing margin; haltere stem dark brown setose.

Abdomen: shape ovate, predominantly black anteriorly and red posteriorly; tergites smooth, setae with small sockets only; T1 reddish yellow to light brown, light yellowish-brown to light whitish-brown setose, with scales; T2–T7 predominantly reddish-orange, thin black setose, brown to light yellowish-brown and white scales, white scales on spots on posterior margins of T2, rarely T3, and T4, single spot medially on T2; S1–8 predominantly light reddish-orange, yellow to white scales, thin black setose and long white setose; lateral margin many black setae extending away from abdomen, male T8 white scales, black setose.

Terminalia: Male terminalia drawings in Hesse (1956, p39): <https://www.biodiversitylibrary.org/page/40844174>.

Material examined. Holotype. SOUTH AFRICA – Northern Cape • 1♂ Bowesdorp Namaqualand; 30°09'03"S, 017°55'55"E; Nov. 1931; SAM Museum Staff leg.; SAM-DIP-A002173, SAMC.

Paratypes. SOUTH AFRICA – Northern Cape • 1♂ Klip Vlei, Garies Namaqualand; 30°25'00"S, 017°54'00"E; Nov. 1931; SAM Museum Staff leg.; SAM-DIP-A002174, SAMC.

SOUTH AFRICA – Western Cape • 1♂ Pakhuis Paas, east of; 32°07'40"S, 019°02'31"E; Sep. 1947; SAM Museum Staff leg.; SAM-DIP-A002175, SAMC.

Other material. SOUTH AFRICA – Northern Cape • 1♀ Bowesdorp Namaqualand; 30°09'03"S, 017°55'55"E; Nov. 1931; SAM Museum Staff leg.; SAM-DIP-A002173, SAMC.

Distribution, biodiversity hotspots, phenology, and biology. Known from localities in the Northern Cape and Western Cape of South Africa (Fig. 9). This

species is known from 4 specimens, collected in three collecting events spread between 1952–2002. The species is known to occur in the Succulent Karoo and the Cape Floristic Region biodiversity hotspots. Adult flies are active from September - November (Table 2). Adult flies are presumed pollinators, as other species in the genus have been observed visiting flowers (<https://www.inaturalist.org/observations/64518819>). Larvae are unknown but presumed parasitoids as other Bombyliidae, hosts are unknown (Yeates and Greathead 1997).

***Enica syrticola* (Hesse, 1956), comb. nov.**

Fig. 11

Taxon depository. ZooBank: <https://zoobank.org/5BF9C251-F8F2-45D7-9665-DFF5AD9387D2>.

Diagnosis. The species is distinguished from other species in the genus by the dark brown to black postcranium, which covers the dorsal and posterior surface of the head.

Description. Head: wider than high, creamy white; males holoptic, females dichoptic, vertex and compound eyes at same level; frons (at level of antennal insertion) more or less parallel-sided, female: light brown to reddish-orange, darker than head, with dark brown to black triangular spot extending to eyes, males: reddish-orange, much darker than head; frons black setose, with white scales, males no setation near eyes, females setose near eyes only dorsally; ocellar tubercle slightly raised, dark reddish-brown to black, black macrosetose, white or light brown scales posteriorly; occiput light and dark brown setose, white scales antero-dorsally, entire back of occiput dark brown to black; gena significantly darkened to reddish brown or black, extremely sparsely setose.

Proboscis and maxillary palpus: proboscis straight, black; labella only forming distal tip of proboscis, apically rounded, minute black setose; maxillary palpus not extending beyond oral cavity, brown, brown setose.

Antenna: black; scape creamy white or reddish brown, approximately as long as pedicel, black setose dorsally and ventrally, setae extending to tip of pedicel; pedicel black, short black setose dorsally; postpedicel black, cylindrical (same diameter throughout), longer than scape and pedicel combined, black scales dorsally; stylus reduced, only apical 'seta-like' sensory element present, situated sub-apically in cavity on postpedicel.

Thorax: reddish brown and light orangish brown; scutum predominantly black, reddish on margins, dark scales centrally and white scales peripherally; setation: acr setae present, black, dc setae present, black; prosternum silvery grey pubescence; proepisternum silvery grey pubescence, long yellowish-white setose, white scales; antepnotum silvery grey pubescence, dull white scales anteriorly; postpronotum silvery grey pubescence, asetose, with medial dark brown to black stripe; postpronotal lobe silvery grey pubescence, long white flattened setose, black macrosetose; pleuron silvery grey pubescence; proepimeron silvery grey pubescence, asetose; anepisternum silvery grey pubescence, white scales ventrally, black macrosetose dorsally; anepimeron silvery grey pubescence, asetose; katepisternum silvery grey pubescence, white scales dorsally; laterotergite silvery grey pubescence, asetose; meron + metepisternum silvery grey pubescence, white scales dorsally; metepimeron silvery grey

pubescence, white setose dorsally; apubescent, ds sctl setae black macrosetose, ap sctl setae comprised of light brown and white scales, black setose.

Leg: light orangish brown to dark brown, covered in scales, some regular setae present; pro coxa dark reddish brown, silvery grey pubescence, dull whitish–yellow scales, thick black setose; pro femur dorsally dark brown, ventrally orangish brown, dark brown scales, black setose; pro tibia light brown, raised short and fine dark brown setose ventrally, large black setose dorsally; mes coxa dark reddish brown, white pubescence, dull whitish–yellow scales, thick black setose; mes femur dorsally dark brown, ventrally orangish brown, dark brown scales, black setose; mes tibia light brown, dark brown scales, long black setose, distal tip with long black setae; met coxa dark reddish brown, white pubescent, dull whitish–yellow scales, thick black setose, anteriorly without any protuberance; met trochanter short black setose ventrally, white scales dorsally, without protuberance; met femur dorsally dark brown, ventrally orangish brown, dark brown scales, brown scales dorsally basally, long and thick black setose; met tibia light brown, dark brown scales, large black setose, distal tip with long black macrosetae of varying sizes; proximal pro, mes, and met tarsomeres longer than following 2 tarsomeres combined, proximal met tarsomere as wide as following tarsomeres; pro tarsomere with dark brown scales dorsally, black setose ventrally; mes tarsomere with dark brown scales dorsally, black setose ventrally; met tarsomere with dark brown scales dorsally, black setose ventrally; claw smoothly arched distally.

Wing: 9.9–11.4 mm, microtrichia absent; membrane color pattern males: predominantly brown colored except for white tinted base of wing, areas around crossveins r-r, r-m, m-cu, base of cells r_{2+3} , center of br, proximal part of r_1 , base of veins M_2 , split between M_1+2 and M_3 , females: darkly infuscated except for white tinted base of wing, r-r, r-m, base of r_{2+3} , base of m_2 , m-cu, split between M_1+2 and M_3 ; costal vein dark brown short setose, whitish clear setose proximally; R_{2+3} distally distinctly arching anteriorly, r_1 open; R_4 terminating anterior to wing apex, distinctly arching anteriorly; cell r_4 open, proximally R_4 and R_5 parallel, R_4 strongly diverging anteriorly in distal $2/3$; R_5 terminating posterior to wing apex; r_5 open; M_1 terminating posterior to wing apex; cell d closed by base of M_2 and m-m, r-m situated in distal $1/4$; m_3 open; cua open; alula greatly reduced, nearly straight wing margin; haltere stem dark brown setose.

Abdomen: shape ovate, predominantly black with at most a thin reddish brown area on posterior edge of each tergite; tergites smooth, setae with small sockets only; T1 predominantly reddish-orange, some black, light yellowish-brown to light whitish-brown setose, scales; T2–T7 predominantly black, thin black setose, brown to light yellowish-brown and white scales, white scales on spots on posterior margins of T2–5; S1–8 predominantly light reddish-orange, yellow to white scales, thin black setose and long white setose; lateral margin black setae remaining close to abdomen, male T8 white scales, black setose.

Terminalia: Male terminalia drawings in Hesse (1956, p43): <https://www.biodiversitylibrary.org/page/40844178>.

Material examined. Holotype. SOUTH AFRICA – Western Cape • 1♂ Lamberts Bay; 32°05'24"S, 018°18'47"E; 20 Nov. 1917; Roberts, A. leg.; NM-SA-DIP-048211, NMSA.

Paratype. SOUTH AFRICA – Northern Cape • 1♂ Augusfontein (= Augustfontein), Calvinia; 31°37'00"S, 019°22'00"E; Sep. 1947; SAM Museum Staff leg.; SAM-DIP-A002179, SAMC.

SOUTH AFRICA – Western Cape • 1♂ Eland's Bay, Leipoldtville; 32°18'44"S, 018°20'29"E; Oct. 1947; SAM Museum Staff leg.; SAM-DIP-A002177, SAMC • 1♂ Eland's Bay, Leipoldtville; 32°18'44"S, 018°20'29"E; Oct. 1947; SAM Museum Staff leg.; SAM-DIP-A002177, SAMC • 1♀ Eland's Bay, Leipoldtville; 32°18'44"S, 018°20'29"E; Oct. 1947; SAM Museum Staff leg.; SAM-DIP-A002177, SAMC • 1♀ Eland's Bay, Leipoldtville; 32°18'44"S, 018°20'29"E; Oct. 1947; SAM Museum Staff leg.; SAM-DIP-A002177, SAMC • 1♂ Eland's Bay, Leipoldtville; 32°18'44"S, 018°20'29"E; Oct. 1947; SAM Museum Staff leg.; SAM-DIP-A002177, SAMC • 1♂ Eland's Bay, Leipoldtville; 32°18'44"S, 018°20'29"E; Oct. 1947; SAM Museum Staff leg.; SAM-DIP-A002177, SAMC.

Other material. SOUTH AFRICA – Northern Cape • 1♂ Augusfontein (= Augustfontein), Calvinia; 31°37'00"S, 019°22'00"E; Sep. 1947; SAM Museum Staff leg.; SAM-DIP-A002179, SAMC • 1♀ Port Nolloth, 23 km E; 29°18'40"S, 017°06'32"E; 185 m a.s.l.; 16 Sep. 2012; Londt, Jason leg.; sandy road verge; NMSA-DIP-206183, NMSA • 1♀ Alexander Bay, 30 km SE, Richtersveld; 28°48'30"S, 016°38'00"E; 50 m a.s.l.; 31 Aug. 1989; Londt, Jason, Stuckenberg, Brian leg.; costal strandveld, flowers; NMSA-DIP-042858, NMSA • 1♀ Richtersveld, Grootderm 50 km NE; 28°19'00"S, 16°55'00"E; 350 m a.s.l.; 03 Sep. 1989; Londt, Jason, Stuckenberg, Brian leg.; Sandy valley below a rocky hillside; NMSA-DIP-042859, NMSA • 3♀ 3♂ Wallekraal; 30°23'18"S, 017°30'32"E; Oct. 1950; SAM Museum Staff leg.; SAM-DIP-A002180, SAMC.

SOUTH AFRICA – Western Cape • 1♀ 5♂ Eland's Bay, Leipoldtville; 32°18'44"S, 018°20'29"E; Oct. 1947; SAM Museum Staff leg.; SAM-DIP-A002177, SAMC • 1♂ Eland's Bay, Leipoldtville; 32°18'44"S, 018°20'29"E; Oct. 1947; SAM Museum Staff leg.; SAM-DIP-A002177, SAMC • 1♂ Jakkals R (= Jakkalsrivier) Strandveld; 32°05'08"S, 018°18'60"E; 05 Oct. 1967; Gess, F. leg.; SAM-DIP-A016204, SAMC • 1♂ Laaiplek; 32°47'10"S, 018°09'40"E; 09 Oct. 1977; Miller, R. M. leg.; NMSA-DIP-89516, NMSA • 1♀ Lamberts Bay; 32°05'24"S, 018°18'47"E; 20 Nov. 1917; Roberts, A. leg.; SAM-DIP-A002176, SAMC • 1♂ Rocherpan Nature Reserve Trail; 32°35'23"S, 018°20'12"E; 2 m a.s.l.; 03 Oct. 2019; Cabrero, A., Deschodt, C. leg.; Flowering mesembs on dunes along coast; Coll. Cabrero • 1♂ Vanrhynsdorp, 7 mi. N; 31°30'52"S, 018°43'09"E; 122 m a.s.l.; 10 Sep. 1972; Irwin, M. E. leg.; red dunes; NMSA-DIP-050202, NMSA.

Distribution, biodiversity hotspots, phenology, and biology. Known from localities in the Northern Cape and Western Cape of South Africa (Fig. 7). This species is known from 30 specimens, collected in 11 collecting events spread between 1917–2019. The species is known to occur in the Succulent Karoo and Cape Floristic Region biodiversity hotspots. Adult flies are active from August - November (Table 2). Adult flies are presumed pollinators, as other species in the genus have been observed visiting flowers (<https://www.inaturalist.org/observations/64518819>). Larvae are unknown but presumed parasitoids as other Bombyliidae, hosts are unknown (Yeates and Greathead 1997).

Key

- 1 Cell R_1 with two crossveins connecting R_1 and R_{2+3} (Fig. 12A); face with white setae ventral of antennal base ***E. longirostris***
- Cell R_1 without any crossveins (Fig. 12B); face ventral to antennal base aetose..... **2**

- 2 Scales (flattened setae) on haltere stem light creamy tan (Fig. 12C); postpedicel club-shaped, broad base bulb-shaped with apical 2/3 slender.....***E. clavicornis***
- Scales (flattened setae) on haltere stem dark brown (Fig. 12D); postpedicel not club-shaped**3**
- 3 Postpedicel reddish orange to reddish light brown (Fig. 12E); distinct oblique rectangular white-stained area between R_1 and CuA***E. eremophila***
- Postpedicel dark brown or black (Fig. 12F); never with a distinct oblique rectangular white-stained area between R_1 and CuA, but individual white spots may be present wings may or may not be darkened, any areas of white do not form a rectangle**4**
- 4 Entire postcranium dark brown to black, continuously covering dorsal and posterior surface of head (excluding creamy white area at compound eye margin) (Fig. 13A) ***E. syrticola***
- Only part of occiput dark brown to black, always some creamy white to lighter brown between the dorsal and posterior occiput (Fig. 13B)**5**
- 5 Tergite 1 cuticle predominantly black (Fig. 13C)**6**
- Tergite 1 cuticle predominantly reddish orange (Fig. 13D)**7**
- 6 Occiput without scales; occiput with large dark elongated spots extending to sides of head, never touching eye margin (Fig. 14C); metathoracic femur with only dark brown scales ***E. adelphe* sp. nov.**
- Occiput with white scales present; 2 dark elongated spots on occiput restricted to dorsal margin, touching or approaching dorsal eye margin (Fig. 13B); metathoracic femur with white scales ventrally, brown scales dorsally ***E. imitata***
- 7 Dorsal occiput with small ovoid black spots in females (Fig. 14A) and without markings in males; dorsal occiput whitish yellow setose ***E. henicoides***
- Dorsal occiput with elongated black spot extending across of head in both males and females (Fig. 14B); dorsal occiput white setose ***E. sporanthera***

Discussion

Synonymy of *Enica* and *Nomalonia*

The genera *Enica* and *Nomalonia* are very similar in appearance, the only major difference being the two extra wing veins found in *E. longirostris*. Authors like Hesse (1956) have noted that *Nomalonia* “is structurally almost inseparable from *Enica*” (Hesse 1956). Hesse even noted that females of *Nomalonia* were almost identical to the female *Enica*, and if it was not for the cross vein they would be indistinguishable and easily mistaken for each other (Hesse 1956). Other authors like Evenhuis and Lamas (2017) have noted that the genera were very similar and barely separable from each other, the only differences being the lack of wing crossveins in *Nomalonia* and differences in the facial setae.

The terminalia of *Enica* and *Nomalonia* share extreme structural similarities. The terminalia of male *Nomalonia* have commonalities with *Enica longirostris* in general structure but especially in gonoxocite shape, the extent of fusion between the gonocoxite and phallus, and shape of the ejaculatory apodeme.

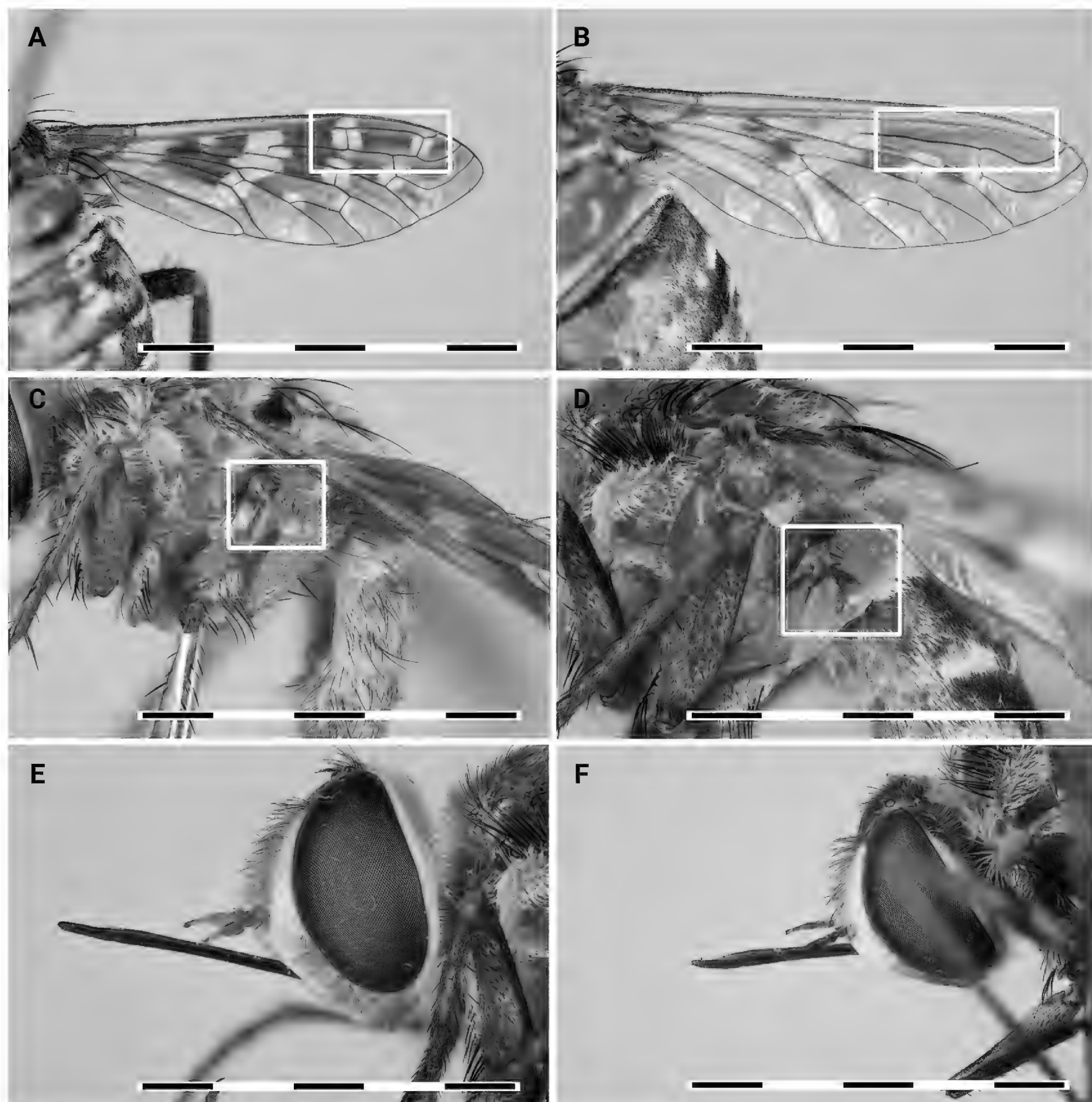


Figure 12. *Enica* key images **A** Cross veins on the wing of *Enica longirostris* ♂ (SAM-DIPA-016213) **B** *Enica* wing with no crossveins, *Enica eremophila* ♂ (NMSA-DIP-93041) **C** coloration of *Enica clavicornis* ♂ (NMSA-DIP-93557) haltere **D** dark brown coloration found on *Enica* halteres, *Enica eremophila* ♂ (NMSA-DIP-93041) **E** postpedicel coloration of *Enica eremophila* ♂ (NMSA-DIP-93041) **F** dark coloration found on *Enica* postpedicels, *Enica imitata* ♂ (SAMDIP-A002172) . Scale bars: 5 mm.

There is more structural variation within *Nomalonia* species than variation separating *Nomalonia* from *Enica*, therefore we argue that terminalia is not sufficient to separate the genera.

The two genera exhibit many morphological similarities, ranging from overall body shape to similar coloration of setae, scales, wing pattern and similar terminalia. The lack of the extra wing vein in *Nomalonia* is not sufficient to warrant its status as a separate genus. This character is better suited in delimiting *E. longirostris* from the other species in the genus, not in separating the two genera. Given these similarities we argue that *Nomalonia* be placed as a junior synonym of *Enica*.

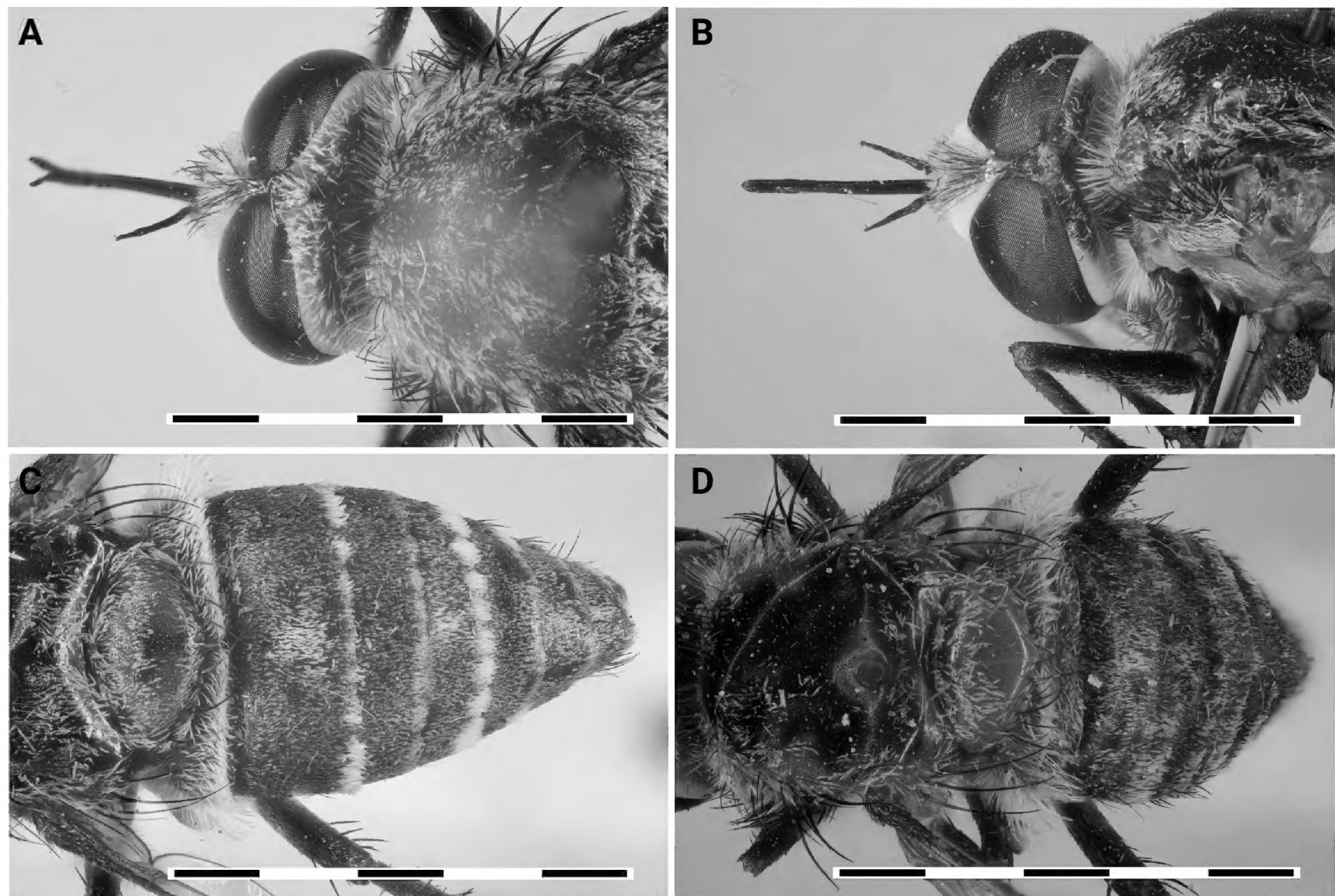


Figure 13. *Enica* key images **A** postcranium of *Enica syrticola* ♂ (NMSA-DIP-89516) **B** postcranium of *Enica imitata* ♂ (SAMDIP A002172) **C** black tergite 1 of *Enica* (*Enica imitata* ♂ SAMDIP-A002172) **D** Reddish tergite 1 of *Enica* (*Enica henicoides* ♀ SAMDIP-A002170) . Scale bars: 5 mm.

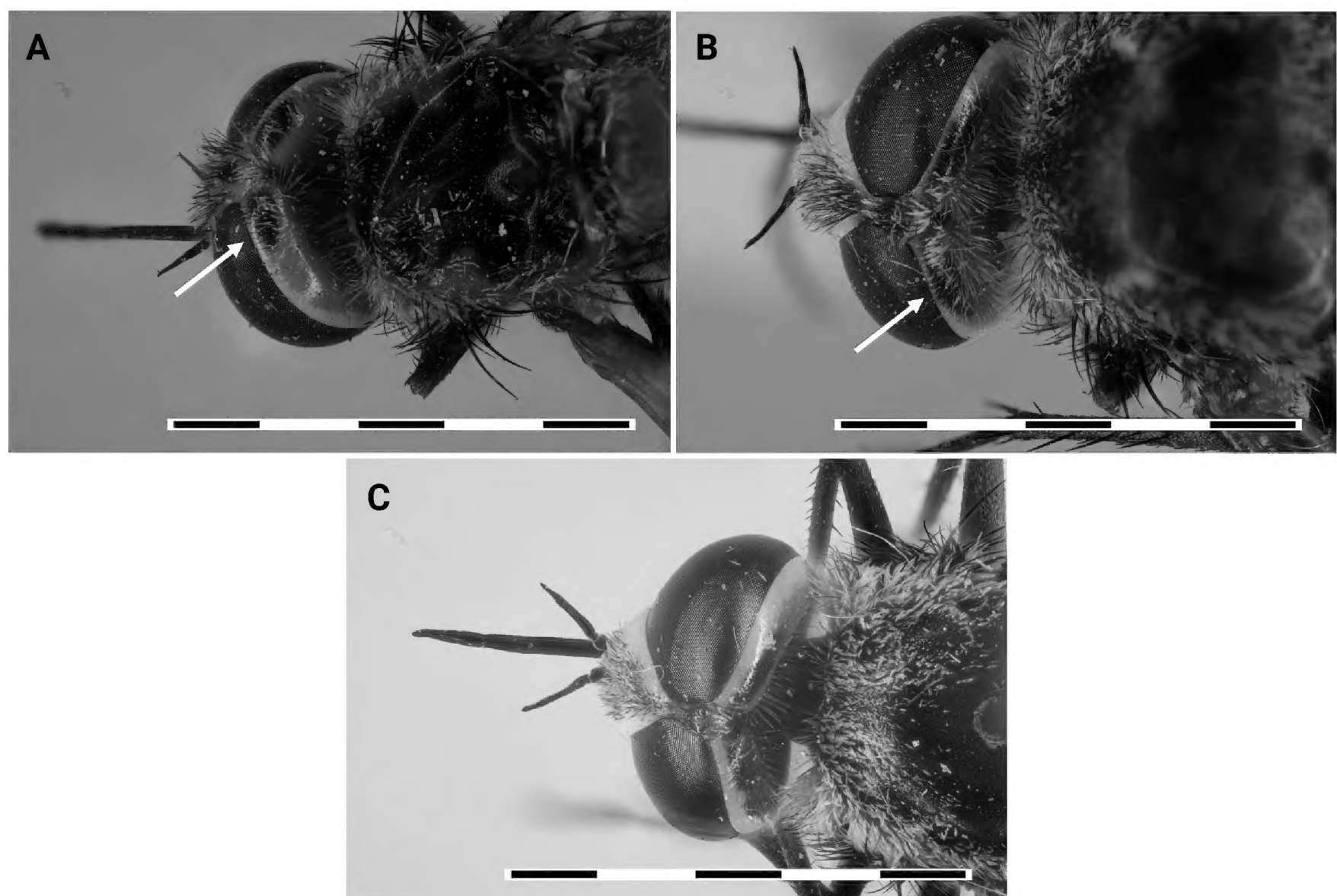


Figure 14. *Enica* key images **A** Dorsal occiput with small ovoid black spots (*Enica henicoides* ♀ -SAMDIPA002170) **B** dorsal occiput with elongated black spot extending across of head (*Enica sporanthera* ♂SAMDIPA002174) **C** Occiput with large dark elongated spots extending to the sides of the head (*Enica adelphe* sp. nov. ♂ NMSA-DIP-89520). Scale bars: 5 mm.

Distribution and biodiversity hot spots

All species of *Enica* have been collected in biodiversity hotspots in South Africa, these are the Succulent Karoo, Cape Floristic Region, and the Maputaland-Pondoland-Albany (Fig. 1). Given that the succulent karoo extends into Namibia, it is possible that *Enica* could also be found there. The species *Enica adelphe* sp. nov. and *E. syrticola* have been collected in the Richtersveld along the northern border of South Africa, near Namibia. Both species will likely occur across the Orange River in Namibia as well.

Conclusion

With the synonymy of *Nomalonia* and the description of a new species, there are now 8 species in the genus *Enica*.

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Additional information

Conflict of interest

The authors have declared that no competing interests exist.

Ethical statement

No ethical statement was reported.

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Data availability

All of the data that support the findings of this study are available in the main text.

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